THE TIMES
Higher Education
SUPPLEMENT

Homerton-Cambridge degree link proposal

by David Hencke

A new education tripos degree should be created at Cambridge University, a major report on the future of teacher education at the university recommended last week.

The report which also recommends that Homerton College, a voluntary teacher training institution, should become an *Approved Society of Cambridge University, has* been prepared by the council of the university senate. Details were published in the *Cambridge University Reporter* last week.

The report will not be debated by the senate until October 12 because of a convention that controversial items cannot be debated during the examination period or during the long vacation. The council of the senate will then decide whether to issue a Grace approving the scheme, and members of the Regent House will be able to vote on the proposals if 10 members request a ballot.

The creation of the new education tripos will allow students to specialize in one subject over three years and to develop their professional skills at a higher academic level than previously. The small number of students who wish to transfer to a Cambridge University BA will be encouraged to continue to do so.

Under the scheme, Homerton College would become an approved society similar in status to Hughes Hall and Lucy Cavendish Graduate Society. Students at Homerton College will be subject to the university's disciplinary regulations, and the principal, tutor and deputy principal would be eligible for membership of the Regent House.

The college would not be allowed to establish fellowships without the consent of the university, and members of the college teaching staff could be admitted to the Faculty of Education only after satisfying strict academic and teaching requirements.

"The character and status of Homerton and its existing links, both formal and informal, with the university, make it appropriate that its future should continue to be on a more clearly formulated and stable pattern of association.

"In the college's opinion, the education tripos outlined in the Faculty Board of Education's report constitutes a unique opportunity for the intending teacher to combine within the university context, an intellectually rigorous personal education with a sound professional training.

"The academic and institutional proposals are designed to develop the present strengths of the college

The report warns that failure to approve the proposals "would bring unfortunate consequences both for Homerton and for the university's department of education".

If Homerton had to look elsewhere, "a radical restructuring of the programme of teaching in the college would be required, involving further delay and uncertainty about the college's future".

The report also discloses that the Department of Education and Science has informally consented to the proposals, which would mean that the college would not be completely integrated with the university colleges.

Joint call for inquiry into Brunel sociology department

by Sue Reid

Staff and students at Brunel University are demanding a full inquiry into the administration of the university's sociology department and the immediate reinstatement of two sociology lecturers whom they claim have been victimized for their political views.

More than 40 sociology students this week occupied the department's offices. An action committee of sociology staff openly criticized Professor Keith Hopkins, head of the sociology department, for his treatment of the two lecturers, Mr Mark Cousins and Dr Pat Carlen.

Earlier this year Mr Cousins was told that his temporary lectureship at the university would not be continued in October. This was followed by the resignation of Dr Carlen in protest over what the action committee have since described as tensions in the department.

The students now claim that Professor Hopkins has ignored the feelings of both staff and students in terminating Mr Cousins's contract, and they allege that following Dr Carlen's resignation, which she was not allowed to retract, he refused to listen to the objections of students or the Association of Scientific, Technical and Managerial Staffs, to which both lecturers belong.

A student spokesman told *The THES*: "The removal of these two lecturers would give the department a Right-wing bias. Since his arrival at Brunel four years ago Professor Hopkins has run roughshod over the staff and students in the department. The academic ability of the two staff concerned has been questioned neither at Brunel nor nationally."

Staff and students claim that a subject option in Marxism offered by Mr Cousins has played a part in the dispute.

Professor Hopkins declined to talk to *The THES*, but Mr Dick Nimmo, the university's administrative secretary, said this week that there had been no victimization of the two lecturers and as yet no final decision had been made to drop the Marxism course

He added that Mr Cousins's contract expired in September and that his application for a similar permanent post at Brunel had been unsuccessful. Dr Carlen's attempt to retract her resignation had not been encouraged by Dr S. L. Bragg, the vice-chancellor.

'Think tank' for LSE proposed

from page 1

bitterly attacked by left-wing students.

Reactions to the proposal, which was warmly welcomed by the LSE academic board this month, have been mixed. Professor Rector of one of the leading research centres suggested Professor Dahrendorf had underestimated the extent of cooperation between bodies such as Chatham House, the NIESR, and said it would be a great mistake to give up an institution if it would duplicate existing bodies of funds.

A former LSE academic with extensive experience of the Civil Service world commented: "There could be a good map of the top-down antipathy to politics within the school that dates from the days of Harold Laski and could contribute to the decline of the social sciences, but I doubt if there is much occasional benefit for government."

However, Professor Dahrendorf was at pains to emphasize in his paper that progress in implementing the proposals must lay with the research workers themselves. They had to make the initiative.

Professor Dahrendorf is also optimistic about the way in which will be considered by the ruling party and eventually the school's appropriate committees. He hinted that his proposals had found a warm welcome in Government and the Civil Service.

He said a model for his proposals was the existing Centre for International Studies which was originally financed by the Ford Foundation. However, he emphasized that if foundation money was accepted, full academic freedom would have to be preserved.

Layfield urges pooling change

A modification of the present pooling arrangements, under which the cost of advanced further education, including polytechnics and teacher training, is shared among local authorities, is likely to be recommended in the report of the Layfield committee on local government finance.

The report, expected next week, will argue for a closer and clearer relationship between what each local authority pays into the pool and the benefits it receives. Such a recommendation would be popular with those local authorities without major higher education institutions which have often felt in the past that they were forced to pay through the pool to maintain institutions which brought direct benefits to other areas.

The Layfield recommendation could also mean that authorities would have to pay the full fees of students who go to colleges and polytechnics in other areas, which is understood that one further recommendation is that the full cost of such items as maandatory student grants should be met by the national government.—*TES*

AUT votes on student quota

University teachers will be urged at their bi-annual conference next week to insist that universities impose a student intake quota in October.

Local groups of the Association of University Teachers will also be encouraged to restrict the range of courses offered to students "where the options available produce an unreasonable burden on them".

These two proposals will be presented to the AUT council meeting in Newcastle as part of a range of demands which, the AUT executive argues, are an inevitable response to the Government's imposition of cash limits in public spending.

London weighting up by £51

Lecturers in London polytechnics and colleges are to receive an increased London weighting, backdated to April 1. The increases agreed by the Burnham Committee this week are £51 to £402 for Inner London, £30 to £297 for outer London and 9 to 150 for "fringe" areas.

NEXT WEEK

Crowther-Hunt on planning

George Morgan on Ecoles

Professor G. H. Bantock curriculum development

Three pages of chemistry

New universities: Stirling

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Fircroft principal to stay

Four tutors of the ill-fated Fircroft Adult Education College, Birmingham, have been sacked by the college trustees in line with the recommendations of a Government committee of inquiry.

But the trustees have failed to carry out two of the major recommendations of the inquiry which called for the dismissal of the principal, Mr Tony Corfield, and the reopening of the college for full-time courses from September.

Students at the college went on strike last year and later introduced their own education programme, which excluded the principal. The college was closed and the inquiry followed.

The trustees said this week that it would be impossible to re-open the college for full-time courses in the autumn. There was not enough time to reorganize courses. They added that the principal would be kept on as warden.

The trustees have given the tutors notice on the grounds of redundancy to take effect from August 31. The position of the principal is different since, for whatever beneficial public purpose, the buildings and other facilities at Fircroft are used during the coming year, the services of a warden will be necessary", they said.

The four sacked tutors this week strongly criticized the trustees' decision not to reopen the college. They said it was "monstrous" that the college would be closed for yet another year.

Librarians

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REMINDER

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THE TIMES
Higher Education
SUPPLEMENT

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Huge expansion recommended in social service training

by David Walker

The number of social services staff trained in universities, polytechnics and further education colleges should be increased at least threefold by the mid-1980s, according to a report now being studied by the Government. It will be published next month under the auspices of the Department of Health and Social Security.

It recommends that the number of trained field social work and social service staff should rise by 15,500; that over 1,600 more probation officers are trained; and that residential staff with a formal qualification increase by a factor of 60.

It urges a twelve-fold increase in the number of staff with the Certificate of Social Service qualification, for which the bulk of the training will be done in polytechnics and further education colleges. Intake on courses will rise from less than 1,000 this year to about 9,000 a year in the 1980s.

The report sets out in great detail a number of strategies open to the Government both within and outside the projected 2 per cent growth of social service spending laid down in the public expenditure White Paper. Its complicated costings and projections make it a full-scale exercise in manpower planning for further and higher education.

A working party composed of representatives of the DHSS, the Department of Education and Science, the local authorities, professional bodies, the Scottish, Irish and Welsh authorities and the Central Council for Education and Training in Social Work worked on it for 18 months. The central plank is that whatever the variation in rates of growth in social services by the mid-1980s, about half of all staff should be properly trained.

At present less than 40 per cent of field staff and 5 per cent of residential social service staff are professionally qualified, and the long-term aim is that all staff in the personal social services should receive "training appropriate to their role". The report urges that manpower planning become a regular "built in" exercise in this area.

It steers clear of the detailed content of training courses. This is the responsibility of the CCETSW, itself a confederation of education-ists, government and practitioners, which will meet to discuss the report on July 8. One issue to be considered is the development of the Certificate of Social Service on which the report places great emphasis. There have been fears that the CSS would become a second grade certificate, confined to non-graduates.

On the related question of university versus further education training, the report underlines the difference between the balance of graduates and non-graduates train-ing to be social workers, and the balance between university and non-university places for training of social workers.

The latter is quite different, it says, as both graduates and non-graduates may train in a university, a polytechnic, a college of further education or a college of education. It makes no recommendations about the proportion of training which should take place in universities and further education.

The intake on the main social service qualification, the Certificate of Qualification in Social Work, validated by CCETSW, is planned to rise from about 3,200 in 1974 to an average of 6,600 to 8,000 by the later 1980s. This will entail a large scale expansion of social work education in universities and polytechnics, even if the report's assumption of a 10:1 student: teacher ratio is accepted.

Informal discussions on implementing the report have already taken place between the DES, DHSS, University Grants Committee and CCETSW. The local authority associations are paying particular attention to costings.

It is thought that since the Government's spending plans made particular mention of the need to expand training, the minimum projections of the report stand a chance of being accepted. It is understood discussions on this basis have taken place within the DES about converting some of the spare teacher training places for use in expanding social work.

DES setback on teacher training places

by David Hencke

A major report on projected school population and teacher numbers is being prepared by the Department of Education and Science. DES officials told a meeting of the Advisory Committee on the Supply and Training of Teachers this week that the new report would update DES Report No 82: *Teachers in the* 1980s, the department's last public document, prepared in March last year.

Work is already well advanced and it is expected to be published in the early autumn. It covers pupil: teacher ratios in the 1980s and 1990s.

The committee agreed to defer discussion again on the DES advisory paper *The Teaching Force in the 1980s*, presented to the ACSTT in March, which included a projection for 57,000 instead of 61,000 teacher training places in 1981. This document along with the Department's new paper will be discussed by ACSTT in October.

Instead, discussion in this week's meeting concentrated on the teacher training intake for colleges and polytechnics in 1977. The committee unanimously agreed to a post-graduate intake of 11,000 into universities and colleges, which is a slight increase of about 400 on last year.

The teacher unions, with the exception of the National Association of Schoolmasters, challenged a DES memorandum which proposed an entry of only 12,000 undergraduate and certificate students to colleges in 1977. That would be a reduction of 11,000 on this year's intake and 5,000 lower than the figure proposed in DES Reports No 82.

Mr Fred Jarvis, general secretary of the National Union of Teachers and Mr Tom Driver, general secretary of the National Association of Teachers in Further and Higher Education, both proposed that the intake should be reduced by only 3,000, to 15,000. They were supported by Dr Eric Briault, education officer of the Inner London Education Authority, but opposed by Mr Terry Casey, general secretary of NAS.

Concern was expressed that an entry of 12,000 could force some colleges to close. Mr Hugh Harding, under secretary at the DES, said this was not inevitable, although he admitted that four or five colleges could be affected.

The department's memorandum said that lower figures than 12,000 non-graduates and 11,000 graduates would alleviate the over-supply problem but "might be held to prejudice consideration about the longer-term size of the teacher training system.

"Any reduction on 12,000 would need to be effected by further closures rather than by spreading the reduction over existing establishments."

The unions successfully opposed the DES proposals and the committee will recommend to Mr Mulley, Secretary of State for Education, that the 1977 figure should be 15,000.

The ACSTT also agreed to recommend to Mr Mulley that both unemployed and existing teachers should be given the opportunity to retrain so they could reach "shortage subjects" such as mathematics.

NUS protest, page 3

Imperial College report urges 'significant' growth

The teaching of social studies at Imperial College, London, one of the country's largest centres of scientific and technological education, ought to be significantly expanded, according to an officially-commissioned report recently circulated to heads of departments there.

The report, prepared by Sir David Huddle, former chairman of Rolls-Royce Aero Engines Inc, now senior research fellow at Imperial College, recommends that a new chair in economics be established; that steps be taken quickly to fill the existing chair in sociology; that the "diversification" of technology degree courses by the inclusion of management studies, industrial sociology and ecoomics be extended.

Sir Brian Flowers, rector of the college, hinted recently that the report would underpin "increasing emphasis in future years on the study of social science close to the proper purposes of the college".

The Huddle report, which goes for approval to the college board of studies in a fortnight's time, indicates some of the administrative structures needed to push forward the training of "technological generalists". Imperial has been debating for some years how to educate scientists and engineers for a broad understanding of society and a grasp of managerial skills.

Two years ago an optional course in "technology and society" was introduced into the final year of the mechanical engineering degree course. A new degree in "total technology" designed to provide the engineering graduate with the skills needed in industrial management is coming to the end of its first cycle.

The report considers what has been a vexed division within the college between the sociologists in the Industrial Sociology Unit and the engineers and mixed social scientists of the management sciences department. The point was forcefully put to Sir David that what was needed was a unified social science department involving sociologists, economists and psychologists, which would be better equipped to make a contribution across a whole range of undergraduate courses.

A key figure in the future of social science at Imperial will be Mrs Dorothy Wedderburn, the director of the Industrial Sociology Unit. She is widely tipped to fill the sociology chair, if it is revived, and perhaps take sociology away from too close an emphasis on industrial applications.

Sir Brian Flowers.

Fourfold increase in fees discounted

by Frances Gibb

The Government is likely to narrow or even abolish the differential in tuition fees of home and overseas students, educationists were saying this week. But earlier fears that fees for British students could be raised four-fold to a possible £800 a year have been discounted.

Mr Rupert Bristow, deputy executive secretary of the United Kingdom Council for Overseas Student Affairs said: "We have it on good authority that there has been a shift away from the idea of increasing only overseas students' fees by a massive amount to rearranging the fee structure and doing away with discrimination."

A spokesman from the Committee of Vice-Chancellors and Principals said the reports about possible four-fold increases for home students' fees bore no relation to the discussions that had taken place within the committee.

The Cabinet policy group, set up to examine tuition fees, is expected to make its decision within the next two weeks on how they will be raised. It may not wait for the final report of the CVCP and the University Grants Committee, expected in two weeks.

Instead of the home-overseas differential it is being suggested that a fee differential might be created between undergraduates and postgraduates. Fees for the latter may be increased as much as five-fold to a possible £900 a year.

Lord Gladwyn, chairman of UKCOSA, said that whether there was a home-overseas differential or not, if fees were raised the net result would be the same: overseas student numbers would be reduced.

It is understood that the final CVCP/UGC report will propose that from 1977/78 fees for undergraduates will be £250 a year and for postgraduates £600. The DES has already agreed that from September fees for all home students, at whatever level, will be £180, and for overseas students £416.

The Council for Education in the Commonwealth organized a meeting this week in the House of Commons to put their case before MPs. Professor Ralf Dahrendorf, director of the London School of Economics, who addressed them, said the great danger was that all the proposals about fees would be added together to the maximum disadvantage

Scientists asked to unite on freedom

The National Academy of Sciences in Washington is inviting scientists throughout the world to sign a declaration in support of intellectual freedom and the freedom of travel and publication.

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Coventry merger decision day

by David Hencke

The future of the 1,300 student Coventry College of Education hangs in the balance today.

Plans to merge the college with Lanchester Polytechnic or Warwick University will be put to the local authority's further education sub-committee following the deliberations of a consultative committee on the future of the college.

A private meeting of the Labour Party policy group in Coventry on Monday agreed to recommend a vote in favour of a merger with Lanchester Polytechnic. The Labour Party have a majority of two over the Conservatives in Coventry.

Last year Lord Crowther-Hunt, then Minister of State overseeing higher education, approved a university-college merger but negotiations broke down between the local authority and the university on three of 13 points covering the merger (*THES*, March 12).

Local councillors approached Mr Fowler, Minister of State overseeing higher education, asking whether he could reconsider the decision and look at an alternative scheme to link the college with the polytechnic. Afterwards a merger consultative committee was set up with representatives from the college, Coventry, Solihull and Warwickshire local authorities, and teacher representatives.

Since then Lanchester Polytechnic has been asked to produce two merger proposals.

Warwick University has submitted its revised merger proposals and Mr Robert Aitken, director of Coventry education authority, and Mr M. L. Ridger, chief education officer of Warwickshire, have also produced reports.

Mr Aitken's points out how local authority control of teacher supply could be maintained in the public sector and how resources could be integrated for future polytechnic development. He explains that the resources issue, and the national pattern of teacher education as a public sector concern since the publication of revised training regulations last autumn, were major factors troubling local councillors.

Mr Ridger, however, still supports the case for a university-college merger. He warns local teachers that they could have less influence through the Council for Teacher Training, proposed by the polytechnic, than through Warwick University. He criticises polytechnic course proposals, which include the expansion of social science when teacher training declines, and warns that "very serious embarrassment and possible staff redundancy might well have to be faced should the demand for the courses collapse".

He also says that the staff : student ratio, 1:7.2 at Lanchester Polytechnic, is below the Government's norm of 1:9 and more uneconomic than Warwick University's, at 1:10.6.

Mr Geoffrey Holroyde, director of Lanchester Polytechnic, says that his own staff : student ratio was in the middle of the ratios given by the Committee of Directors of Polytechnics. In a foreword to his report Mr Holroyde supports the transfer of teacher training to the public sector.

"The concept of teacher training blends well with the concepts established for the polytechnics. Lanchester is not without its problems, and a merger with the college in which both institutions would need to change would add to them.

"Were the college to merge with the polytechnic, I believe that soon after the initial anxieties had been dispersed the college would find a warmth and cooperation that would enable the joint institution to pioneer exciting further developments in teacher training and diversified courses."

Warwick University in its document reaffirms its case for a merger and says it does not regard negotiations with the authority as having broken down. "Of the 13 points raised, agreement was reached on 10 and if a meeting had been reconvened within a fortnight the outstanding points would have been cleared up. It is thus hoped that early recommencement of the negotiations will be made which will lead to the final approval of the merger in the very near future."

Staff at the college still overwhelmingly support a university-college merger and have produced their own document outlining the cases for and against the university and polytechnic. One of the early changes will be the end of Warwick University validation of Coventry College courses, with all new developments being transferred to the Council for National Academic Awards by 1978.

A meeting of Coventry College of Education governing body was adjourned on Monday after moves were made to bar college lecturers, heavily in favour of a university-college merger, from voting on the issue because of "pecuniary interests". The meeting will be resumed today.

Lesotho wrangle brought to Mr Silkin's door

by Paul Moorman

Mr Silkin, the Attorney-General, has been asked to intervene in a complex legal wrangle which could finally decide the future of the tiny strife-torn University of Botswana, Lesotho and Swaziland (UBLS).

Although Mr Silkin has yet to reply formally to a Lesotho Government request for High Court writs to be issued against Botswana and Swaziland, all indications are that he will refuse to get involved in the controversy.

The trouble began last October (*THES*, October 31, 1975) when the 11-year-old three-campus university was split by a unilateral declaration by Lesotho that its Roma campus would henceforth be called the new National University of Lesotho.

The action was taken, Lesotho said, because the university's vice-chancellor, New Zealander Dr Cyril Rogers, was favouring the other two countries in the allocation of courses and resources.

Dr Rogers moved to Swaziland, announcing that UBLS's headquarters had been switched from Roma. What Lesotho now wants is for the "L" to be taken out of UBLS.

The Lesotho Government is claiming that the two campuses in Botswana and Swaziland are misleadingly advertising for staff at "UBLS" and that insurance, financial aid and legal matters are still being dealt with under the name of the defunct institution.

For Britain, the situation is potentially highly embarrassing. There are about 60 Britons on the academic staff on the three campuses out of a total of 150, mostly under the auspices of the two University Council for Higher Education Overseas.

Negotiations on a new five-year extension of the British Expatriate Supplementation Scheme, whereby Britain meets part of the salaries of academics from Britain, are also currently being finalized.

Legally, Lesotho is arguing that UBLS was incorporated by Royal Charter before the three countries gained independence. Only the United Kingdom Parliament and courts, therefore, are competent to alter Botswanna and Swaziland using the old name.

Lesotho further claims that a writ can only be issued by the British Attorney-General or a British Attorney-General, with the approval of the subject with the approval of the Crown passed to the heads of the Governments of the three countries.

Meanwhile, Botswana and Swaziland say that no unanimous action is called for on their part. It was Lesotho which unilaterally withdrew from the arrangement. Rogers is still administering UBLS (or UBNS) from Swaziland, although his contract is expected to be ended by mutual agreement later this year.

'Mediocrity rising among graduate technologists'

by Alan Cane

Industry believes the proportion of mediocre recruits in its intake of graduate scientists and technologists is increasing. A special supplement to the Confederation of British Industry's *Education and Training Bulletin* gives details of a recent survey among employers which warns that an increasing number of recruits display poor personal motivation, little professional commitment, lack of flexibility, breadth of vision and creativity in problem solving.

They need close personal supervision, it goes on, and are deficient in inter-personal and communicative skills.

It warns: "Such shortcomings considerably jeopardize their potential for supervisory and management posts and the situation has serious long term implications for the future quality of industrial middle management, which is of such crucial importance."

The survey suggests that the deterioration is limited to scientists and technologists: "Employers do not seem to have experienced a similar fall in the quality of arts graduates—although even in this area there is some complaint of inadequacies in communication skills."

It indicated that many companies had been experiencing shortages of qualified scientists and engineers in particular fields although so far this had not caused serious problems to individual companies. Graduates in mechanical, chemical, production, electrical and electronic engineering were in particularly short supply.

The CBI document says that more serious overall and could well cause future problems, particularly since an analysis of admission figures indicates that the output from these disciplines will significantly decline for at least the next two years".

It goes on to argue that it would be unwise to produce the supplement places for scientists and technologists in higher education even if some of the provision were not used to capacity: "While this policy might at times result in an imbalance between supply and demand, a shortfall in the science and technology output could have a more serious long term effect", it says.

The CBI argues that the root of the problem is in the schools and says it would be retrogressive if the steps taken to encourage science and technology teaching were to lapse due to the present financial situation.

Dramatic growth predicted for training opportunities scheme

by Sue Reid

At least 100,000 students will complete courses under the Government's Training Opportunities scheme in 1980 and more than 50 per cent will be studying in colleges and polytechnics, it has been predicted.

Figures to be released by the Manpower Services Commission later this month show that there will be a dramatic expansion in the number of students being trained under the scheme by the end of the decade.

It is predicted that of the 100,000 students completing TOPS training in 1980 57,000 will study in polytechnics and colleges of further education. Last year 60,700 people completed TOPS training courses; 34,000 in colleges and the remaining 26,000 in Government Skill centres, training centres for the disabled, and establishments run by individual concerns.

This year it is expected that 80,000 people will complete TOPS courses, with 45,000 students studying in colleges. Next year the overall figure will rise to 82,000 with about 44,000 in colleges.

The TOPS scheme, controlled by the Training Services Agency, has expanded rapidly in the past three years. College training has accounted for a large part of the growth with an increasing number of trainees undertaking higher level courses, including special courses for redundant executives. The TOPS courses cover a wide variety of fields from marketing to machining but are all strictly vocational.

The new figures are included in the Commission's five year plan 1976-81, due to be published later this month. They were outlined by Mr Eric Sayor, regional training adviser for the Training Services Agency at a recent conference on TSA courses organized by the Institute of Practitioners in Work Study Organisation and Methods.

Over the next five years the TSA would give priority to the training needs of women, management development, technician education and office and administrative occupations, he said.

In 1974 36 per cent of TOPS trainees completing courses were women, compared with three per cent three years before. There had been a similar increase in the number of people sponsored by TOPS on management training courses.

He revealed that the TSA was developing on a regional basis; 38 district offices had been opened.

Later in the conference Mr Michael Finnimore, of the Government's Professional and Executive recruitment agency, warned that placing successful TOPS trainees in jobs was not always easy. One of the main problems concerned students completing management training.

He said: "We have the greatest difficulty in placing candidates who were not of a professional standard before going on to a course. If compared with candidates who have experience employers will not consider them."

Mr John Borradaile, training shop superintendent at Ruston Gas Turbines, Lincoln, called for the establishment of a national network to pinpoint training needs.

Action at NUS Drama Festival.

Enter new council for theatre

by Frances Gibb

A Drama and Theatre Education Council is to be established to oversee the whole area of drama education and training.

The proposal comes from a working party set up after a conference organized by the British Theatre Institute in March on the need for such a council.

It is hoped that the council will enable the whole area of drama education to speak with one voice to the government, local authorities and other grant-giving and research bodies. Its first chairman will be Dr J. R. Mulryne, reader in English literature at Edinburgh University and chairman of the Drama and Theatre Panel of the Council for National Academic Awards. He also headed the working party which made the proposals.

Members of the new council will be representatives of organizations involved in drama training, such as the Conference of Drama Schools, the National Association of Drama Advisers and the Consortium for Drama and the Media in Higher Education. The CNAA, the Drama Board and the Society for Theatre Research may also be represented.

Some groups involved in drama training already have representative bodies, such as the Standing Conference of University Drama Departments.

The new council is hoping to raise funds from the bodies involved and from the Carnegie Foundation.

Universities 'still enjoy autonomy'

Universities in Britain still enjoy autonomy in all the essentials. They retain absolute discretion over students they accept, teachers they appoint, subjects they teach and examinations they set, Dr Brian Thwaites, principal of Westfield College, London, told a conference last week.

He said that universities had to live within imposed financial limits but apart from that were subservient to no one. They were not the official instruments of government social policies and their students came voluntarily and without coercion.

Dr Thwaites, speaking at the Association of Head Mistresses annual conference, was making a direct comparison between schools and universities.

Schools, with certain exceptions, operated under completely different rules to universities. They were directly manipulated for overall social and political ends and were unable to determine their own individual criteria for the selection of pupils.

He referred to a recent remark by Dr Walter Oakeshott, former rector of Lincoln College, Oxford, who said that in the 1930s schools "taught boys, not subjects". It was a devastating commentary on schools today, said Dr Thwaites.

"What a tragedy that our once great sixth form has become a mere crammer for A levels as a baleful consequence of the Robbins report which subjugated university entry to a mathematical formula", he added.

There were now governments prepared to bulldoze their way through professional opposition in matters such as the organisation of schools. They made it impossible to carry out comparative experiments and suffer from all the defects of revolution and attract none of the advantages of evolution.

However, said Dr Thwaites, when it came to curriculum governments were utterly anti-intervention. But really interested in education they should, with teachers, decide what was actually taught to individuals. If they were not interested in the curriculum they would leave the schools completely alone.

New department at Oxford

Oxford University's Hebdomadal Council has amended the university's statutes to allow the establishment of a new department of biological anthropology.

The amendment will allow the physical anthropology laboratory to operate as an independent unit under the redesignated title of department of biological anthropology.

Into the trees

Manchester University has given 30 acres of farmland next to the Jodrell Bank Radio Telescope for the Granada Arboretum, a collection of trees and shrubs from throughout the world.

15,000 jobless 'may be underestimate'

by Frances Gibb

The future of 15,000 newly-qualified teachers expected to be without jobs next September may be an underestimate, Mr Fred Jarvis, general secretary of the National Union of Teachers, said in London this week.

He told the first press conference to be held jointly by the NUT and the National Union of Students that he was wary of making a firm prediction but the figure could be in the order of 20,000.

If local authorities responded to the latest Government circular urging them to reexamine spending in the light of recent overestimates (*THES*, June 4) the unemployment of teachers was likely to be far worse than had been thought.

"I do not see how local authorities can save more money without sacking teachers and other staff", he said.

Mr Jarvis said that in the NUT's view no local authority had overspent in the context of the Government's guidelines on maintaining existing educational standards. Many had not even fulfilled these obligations.

He said the NUT gave full support to the aims of the NUS campaign against teacher unemployment, now into its third week.

Mr Charles Clarke, president of the NUS, said the campaign would be continuing into the next academic year and jobs would be found for all qualified teachers.

At a special conference organized by the NUS this week at Manchester, teacher training students defeated by 171 to 169 votes the union executive's proposal to confine the campaign to teacher unemployment. They called for students to fight all unemployment and public expenditure cuts, and for trade unions to consider supporting them with industrial action.

They called also for a day of action on June 16 to coincide with the TUC conference. It will include a mass picket of the conference in protest against the Government's pay policy.

The past two weeks had seen an unprecedented level of student activity, involving thousands of students who had never been involved in political activity. Students were united, he said. The campaign was not bedevilled with the political disagreements of many of the NUS's campaigns.

Some 600 students, representing about 150 colleges and departments of education attended the conference. Sit-ins, which first began three weeks ago, are now taking place in 119 colleges, polytechnics and universities.

The conference was divided on whether the campaign should be widened to a fight against all unemployment.

Mr Charles Clarke argued for using the issue of teacher unemployment as a wedge. "By winning the 15,000 teachers. They estimate £6.5m net is needed.

● A call for all "fair-minded" people to support student teachers came this week from Dr George Tolley, principal of Sheffield Polytechnic.

In a personal declaration of support for the students he said: "When the most compliant, most dutiful students are defiant and hostile we must look to others for the cause.

"A corroding legacy of mistrust is about to be bequeathed. These young people are asking for fair play and they are not getting it. May they have every support from other fair-minded people."

Sit-ins were almost without exception disruptive affairs, planned and executed by militants determined to provoke angry confrontation, he said. The sit-in now taking place at Sheffield Polytechnic was an exception.

"The students were right to protest. They were asked to come into teaching three or four years ago and could have chosen other careers which would not now be promising only half of them jobs.

"They are confronted with broken promises, bland indifference and a somewhat heartless manipulation", he said.

Delegates' picnic at Manchester Polytechnic

this issue we will have opened up a chink in the armour of the Government's economic policy", he said.

"That contribution will be a decisive cuse on our future as a student union and on all organizations trying to break the Government's policy."

Miss Anna Reese, a delegate from Coventry College of Education, pointed out that the campaign had started with the student teachers telling the executive what to do and not the other way round. All jobs in the public sector had to be defended. Teacher unemployment could not be isolated from all unemployment, she said.

This week all student unions were urged to set up unemployment desks for registering the number of students without jobs in their area.

As part of the week's publicity drive students were urged to picket all council meetings and local authority offices and set up stalls in local shopping areas to publicize their case. Students at Bristol University's school of education are holding a teach-in today.

Student leaders are shortly expecting to meet Mr Mulley, Secretary of State for Education and Science, to discuss whether more money can be found for employing

Ideas exchanged in Commons on cutting unemployment

Suggestions for reducing the number of unemployed teachers were exchanged in the House of Commons this week.

Mrs Lynda Chalker (Wallasey, C) referred to the proposals for a voluntary early retirement scheme and Mr Mulley, the Secretary of State for Education and Science, pointed out that the scheme for retirement on pension at 55 had been considered recently in the Teachers Superannuation Working Party but discussion was deferred.

Asking when talks were expected to be completed, Mrs Chalker felt that with older teachers wishing to retire early, some of the unemployed could take up those posts in September, if Mr Mulley could get a move on with it.

Mr Mulley said that in the first instance these negotiations were between the l.e.a.s and the unions. "What we are seeking to do" he explained, "is to keep these arrangements in line with those for other local government employees. The question is whether it should be a voluntary retirement scheme or a matter for compensation for premature retirement, which is the normal practice at present".

Mr William van Straubenzee (Wokingham, C), a former education minister, considered that one of the reasons for seeking to press on with this retirement scheme was that many of those now coming out of the colleges of education were of a particularly good standard, which made it doubly regrettable that they could not be immediately employed. Was there not much advantage in seeking to improve the quality of the teaching force?

Predictions of unemployment were difficult to make, particularly at this time. In a few months she hoped to have a rather clearer picture.

Mr Norman St John-Stevas, chief Opposition spokesman on education (Chelmsford, C) said the essence of their charge against the Government was that they had succeeded in raising teacher unemployment to record levels and at the same time created a record shortage in specialist subjects like mathematics, science and the crafts.

Miss Margaret Jackson, under secretary at the DES (Lincoln, Lab) said she was sorry he had said that since in a number of newspapers recently it had been made public that it was during the days of the previous administration, when Mrs Thatcher and Mr St John-Stevas were at the department, that the places now producing the unemployed teachers were planned.

'Boost priority area funds'

Funds to employ newly trained teachers in educational priority areas should be raised by the Government even if it meant cutting the teacher education budget, Mr Gordon McGregor, principal of Bishop Otter College of Education, Chichester, has suggested in a letter to the Department of Education and Science.

He has asked Mr Fowler, Minister of State overseeing Higher Education, to consider launching such a scheme this year to prevent 15,000 teachers from becoming unemployed.

"If all local authorities responsible for EPAs were immediately permitted to advertise enough additional teaching posts to reduce their class sizes well below the national average, the young people graduating this term could be offered a challenge that most would gladly accept."

He says that salaries could either be met from money to create new jobs or from the education budget itself.

"I doubt if I am the only head of a teacher education institution who would prefer to finance such a scheme from a distributed cut in next year's teacher education estimates, rather than wait for the catastrophic drop in recruitment to teacher education courses which is bound to follow if nothing is done."

MPs' report set to criticize 'secretive and narrow' DES

by David Walker

The group of MPs which has been investigating the Department of Education and Science will report, probably next month, that planning for the future of education is badly organized, too secretive, and too narrow.

It is likely to confirm many of the findings of a team from the Organization for Economic Cooperation and Development which last year said that DES officials tried to understate the role of Government in determining the future course of educational policy.

As one of the members of the House of Commons Expenditure Committee's education and arts subcommittee has said, its report will damage the official picture of the DES passively standing back while the various competing interest groups, such as local authorities and teacher unions, fought it out. The DES had to be consciously and actively involved as a planning body, not a mere bystander.

The report is likely to make special mention of inadequate planning of provision for the 16 to 19 age group and the apparent arbitrariness of the DES decision to allocate higher education student numbers to polytechnics and universities on a 50 : 50 basis. It is also expected to criticize unwillingness to reveal the forms of consultation which the DES undertook prior to the issue of the 1972 White Paper.

The sub-committee, headed by Miss Janet Fookes, a Conservative MP with more than 12 years' experience of school teaching, has been strongly influenced by two sets of evidence.

Lord Crowther-Hunt, former minister at the DES and an expert on the government machine, told it that the DES was "ill-organized and ill-equipped for its role as a long-range planner". Civil servants from the Department of Employment and its agencies, such as the Manpower Services Commission, impressed the committee with their willingness to plot estimates of manpower needs and then plan the necessary training.

A negative influence on the committee was Mr Mulley, Secretary for Education. Some members of the committee were astounded by his "complacency" when he dismissed the idea of planning student teacher numbers in science and mathematics saying it had been the same in his own youth. Representatives of the DES itself made a mixed impression.

The committee was disappointed with the evidence presented to it on behalf of Her Majesty's Inspectorate, and it is likely its report will urge the DES to strengthen its research potential, perhaps with the appointment of an academic educational expert to a senior DES post.

However, the report will steer clear of concrete recommendations for new institutions, preferring to "influence the climate of opinion" by laying emphasis on issues such as planning. The committee's report will be one of the first documents to land on the desk of Mr J. A. Hamilton, the new permanent secretary of the DES. MPs hope he will be more flexible than his predecessor, Sir William Pile, who is moving to the Board of Inland Revenue.

Sir William told the OECD in a "confrontation meeting" after receiving its report that the nature of the DES was "evolutionary, pragmatic and historical". Much of its work was in identifying existing trends, although he emphasized it had innovated in establishing bodies such as the Council for National Academic Awards and the Open University.

The involvement of civil servants in decision-making will be considered in the committee report. Few of its witnesses have painted a black picture of unaccountable Civil Service power, yet none have tried to minimize the large areas of discretion held by the DES officials.

The committee's main line of thought is in favour of a planning unit within the DES involving either outside experts or one of the DES ministers of state acting as a planning minister unconcerned with day-to-day administrative work.

Such a recommendation could well be boosted by the final report of another House of Commons committee, now sitting, which is examining how the conclusions of the Fulton report on the government machine have weathered since the late 1960s. They included plans for powerful forward planning mechanisms to each government department.

The final significance of a report critical of the DES is difficult to assess since Parliamentary select committees' advice to government is often ignored.

Middleton College to close

by David Hencke

Middleton St George College in County Durham, which has 700 students, will have to close, Mr Fowler, Minister of State overseeing Higher Education, has decided.

The college was opposed by Mr Fowler on May 5, 1970 and received notice to close from the same minister last week. It will admit its last students this September and close in July 1979.

It is the largest of the 17 colleges which have been closed since reorganization of the colleges began in 1973. It is also the shortest-lived local authority teacher training institution, having taken its full quota of students for only six years of its 11-year existence.

Mr E. L. Black, principal of the college, said that the decision would mean that South Durham would now have no teacher training institution since Darlington College is to close by 1978.

"It is remarkable that a small cathedral city like Durham is to keep two teacher training colleges while a large town like Darlington is to lose all its teacher training places", he said. The reason for the closure is given by the Department of Education and Science as the failure of the Cleveland and Durham education authorities to agree on a transfer of the college to Teesside Polytechnic.

Mr Black blamed the Durham education authority for not acting quickly enough on reaching an agreement for the closure. He felt that a scheme to keep some higher education and teacher education in South Durham could have been approved.

He was also critical of the waste of resources. "As a taxpayer I resent the spending of money on creating colleges which are then closed. To create similar facilities would cost between £4m and £6m. It was only in 1968 that the Government decided to convert the former bomber station we occupy by Teesside Airport and develop a 67-acre campus. We have also had halls of residence built for nearly 500 students."

"The only future I can see for the college is possibly as an open prison. The matter it seems will now be passed to the Durham land agent."

Joint attack on London grants

A warning that the new grants settlement "perpetuated a highly unsatisfactory situation" has been issued by Mr Bryan Thwaites, chairman of the collegiate council of London University, and Mr Richard Silver, chairman of the Students' Representative Council of the university.

The joint statement warns that the new grant of £955 in London would consolidate the state of affairs whereby arguments in favour of student maintenance grants had been jeopardized by universities and colleges not adhering strictly to UGC rules.

NEXT WEEK

Alvin Gouldner on ideological conflict in universities

Tyrell Burgess : control of higher education

The history disease

New universities : conclusion

University libraries

College reorganization and teacher supply

Professor Dennis Wellland on a new biography of Emily Dickinson.

Three pages of social administration books : Paul Halmos on the welfare state

Call to begin manpower planning in schools

by Frances Gibb

Dr John Horlock.

Manpower planning should take place at school rather than at university, Professor John Horlock, vice chancellor at Salford University, has proposed in his annual report for 1974-75.

The numbers of students taking arts or science subjects at undergraduate level were not balanced, which was not wholly beneficial for the country's needs, he said.

Salford University staff, therefore spent a great deal of time and effort trying to influence young people in schools towards science and technology.

Planning of new courses should also be related to job opportunities however, he said. Before the university offered a new course it carefully investigated the job market.

A university need not be universal in the range of subjects it encouraged. "There has to be an acceptable range and depth to the scholarship upon which the reputation of the institution rests, but it need not be all-embracing."

Salford was an example of this. The bias of its teaching would continue to be towards science and engineering, but in the next few years it would favour a more rapid development of arts and social sciences.

A balance of subjects was more difficult to maintain at postgraduate level. Salford was particularly concerned about the poor home recruitment to postgraduate work in science and technology and about the large numbers of postgraduates coming from overseas to fill the vacuum left by British students.

Britain could not be a top class modern industrial country without postgraduate education, Professor Horlock said. If the importance of postgraduate education were accepted, the government ought to make a proper investment in it by way of student grants.

Fewer Welsh graduates find jobs

by Sue Reid

Five per cent of students graduating with first degrees from the University College of Wales, Aberystwyth, in 1975, were still unemployed at the end of last year, the university's careers and appointments service has revealed.

Figures show that 35 graduates, compared with 23 in 1974, had failed to find employment by December and a further 62, about nine per cent, were in temporary employment.

Twenty-three per cent of the 1975 graduates finding employment entered accountancy, banking or insurance, compared with 18 per cent in the previous year. This balanced a fall in the number of Aberystwyth graduates entering industry.

The statistics show that 19 per cent of the employed graduates found jobs in industry, a drop of seven per cent over 1974, accounted for by a fall in the number of women entrants.

Ten per cent entered central government or the armed forces, compared with eight per cent a year earlier but only 22 per cent found jobs in local government or hospitals, four per cent fewer than in 1974. Nine per cent entered training to become solicitors compared with eight per cent a year

Of the total number of degree graduates 17 per cent continued with academic studies, a fall of three per cent com with 1974. Eleven per cent c some form of further stu

Nineteen per cent of Aberys graduates with higher degr training, seven per cent gain versity of posts and eight per entered research fields, five per cent found employm polytechnics, technical colleg colleges of education and other seven per cent found po schools.

Brunel students demand full inquiry as sociology sit-in ends

Students at Brunel University have called off their occupation of the sociology department office. But they are continuing their demands for full inquiry into the administration of the sociology department and the reinstatement of two lecturers, who, they claim, have been victimized for their political beliefs.

The 15-day occupation followed criticism by some sociology staff of Professor Keith Hopkins, head of the department, over his treatment of the two lecturers, Mr Mark Cousins and Dr Pat Carlen. Dr S. L. Bragg, the vice-chancellor, has since agreed that a vacant lectureship in the department is frozen until the dispute is settled.

Earlier this year Mr Cousins was told that his temporary lectureship at the university would not be continued in October. This was followed by the resignation of Dr Carlen in protest over tensions in the department.

The students claim that Professor Hopkins ignored the feelings of both staff and students in terminating Mr Cousin's contract, and they allege that following Dr Carlen's resignation, which she was not allowed to retract, he refused to listen to the objections of students and members of the Association of Scientific, Technical and Managerial Staffs, to which both lecturers belong.

The Brunel branch of the union and the whole students have called for the "blacking" of the vacant post in the department and the university senate is to discuss the issue of the two lecturers as soon as possible.

A university spokesman said: "The university authorities will take no further action regarding the vacant post until all doubt is removed about the future of the two lecturers."

Dr Carlen and Mr Cousins were planning to meet representatives of the British Sociological Association earlier this week and the students, who claim that the removal of the two lecturers would give the department a Right-wing bias, staged a mass meeting last Friday as part of their continued campaign for an inquiry.

CET urges 'take away' learning for 16 to 19 year olds

by Patricia Santinelli

"Take-away learning" for year-olds and the recruiting of teachers in the use of educational technology has been proposed by the Council for Educational Technology, in a recent memorandum to the Department of Education and Science and the Training Services Agency.

Take-away learning would consist of specially prepared packages ranging from workbooks, with notes and cassette tapes, to be used both for guided self-study and face-to-face teaching.

The memorandum reflects some of the proposals made by CET at the DES conference in April on "16-19: Getting Back to work".

At the conference the Government outlined plans for the implementation of a programme in partnership with LEA of some 10 pilot areas in England and Wales, aimed at providing for the 300,000 school leavers who will take up employment each year without any further education or training.

The council urges that part of one of these pilot schemes should involve experiments of "take-away learning" which would enable a student to study in a chosen environment, whether at home, in a club or the trade union.

Because of the significant contribution that educational technology can make, the CET also calls for early participation in the deliberations of the Central Advisory Council for Further Education Curriculum Study Group on the establishment of this unit to be discussed at the conference.

Other suggestions to implement the programme were: further development of the CET's study of innovations; provision of a panel of experts who could advise on the pilot schemes; assistance in the collection of information on existing educational and training materials, information on production facilities for new materials and advice on copyright and layout, designing and operating evaluation procedures.

Heritage year brings unity

Bringing environmental planning and educationists together was one of the extraordinary results of European Architectural Heritage Year, Professor Asa Briggs, vice-chancellor of Sussex University, said in London last week.

Introducing an illustrated report called *Education and Heritage*, Mr K. V. Bailey, formerly chief education officer for the Greater London Council, he said that these two groups had not always made contact within their local authorities and that until the government reorganization in 1974 were completely separate.

The report assesses the study provided by Architectural Heritage Year in environmental education and outlines in detail some of the projects that took place, involving schools, colleges, universities, museums and environmental planners.

Professor Asa Briggs emphasized the importance of continuing with the work started in that year. The Heritage Education Group had been set up by the Department of the Environment in February, of which he was chairman, to ensure that the impetus was maintained. It had a grant of £23,000 a year.

Education and Heritage from the Heritage Education Group, the Civic Trust, 17 Carlton House Terrace, London SW1. Price £1.50. Postage 40p.

'End damaging adult split'

Traditional distinctions between liberal and vocational needs in adult education are redundant, according to Mr Linden West, adult tutor at Lochinvar Adult Centre in Cumbria.

In the May issue of *Adult Education* he writes: "Adult educators are increasingly aware that we need a much broader conception which bears some resemblance to adult need."

The administrative division that has been created between vocational adult learning, which was economically useful and deserved public support, and liberal learning, has done "incalculable harm", Mr West says.

Any consideration of the educational needs of adults must avoid abstract and narrow administrative distinctions which far too long have condemned adult education to being the "patch on the backside of the DES".

The relationship between the sectors of the education system is also ill-defined, and bears little resemblance to a detailed, comprehensive strategy for life-long learning.

There is still an assumption that the early stages of education are the most important and everything else is subsidiary, he says. But the view is at last gaining ground that potential does not cease at eight, 11 or 16, but responds to circumstances throughout life.

What is needed is a term which is a workable definition of education throughout life and at the same time claims rationality in terms of resources.

Mr West proposes the term "recurrent education" to the most suitable. It would have three main criteria: availability throughout life; accessibility to everyone; and relevance to careers.

"In the immediate future a total change is completely unlikely, but small steps are within reach without large-scale resources. It depends on another matter. There is no real alternative at present."

DES publishes pamphlet on international links

A booklet listing organizations providing links between countries and material for teachers has been published by the Department of Education and Science.

It will be issued free to local authorities for distribution to schools and colleges. It gives addresses of the organizations, their conference facilities, publications, recordings, films, scholarships and details of exchanges.

International Understanding: Sources of Information on Organizations 1976, from Information Division, Room 1/27, DES, Elizabeth House, York Road, London SE1 7PH.

Compensation plan criticised

The Department of Education and Science's proposals for the compensation of lecturers who are retired early will discourage many qualified as accountants, lawyers, engineers or architects from seeking appropriate employment, the Association of Polytechnic Teachers has claimed.

It is proposed that such lecturers would not be allowed to have a total future income, including compensation, greater than they received before retirement.

"The requirement that in addition to the normal taxation there shall be a reduction, pound for pound, of the compensation for any money earned will prove to be a disincentive to the lecturers to seek appointments appropriate to their expertise and experience", the APT states.

If the level on which money was reclaimed was reduced from the proposed pound for a pound rate, to 50 or 25 per cent, lecturers would be encouraged to exercise their profession to the benefit of the community and the total revenue to the Treasury would be higher through increased taxation, it argues.

Zambia reopens university

The Zambian Government has overruled the protests of academics and reopened the University of Zambia while 15 students and a Zambian lecturer are still jailed.

The leading academics and the university, closed in February after student demonstrations, last month strongly opposed the Government plan to reopen the campus until the student and lecturer were released from detention. They were held alongside five expatriate lecturers who have since been deported following the university demonstrations.

The university has reopened with Mr Jacob Mwanza as the new vice-chancellor. Mrs L. M. H. Goma, the previous vice-chancellor, has become Minister of Education.

A Zambian Government committee of inquiry is now examining events at the university over the last six months. But calls for the immediate release of the students and lecturer from academics in Zambia and abroad are likely to continue. They say that the detentions raise serious questions about the future of the university under the present political conditions.

Course pulls out all the stops

Open University students who enjoy playing music together but "elements of music" will have an electric organ delivered to their homes to help with their studies.

The organs, which are fitted with a special volume control so that they do not disturb the neighbours, measure two feet by 10 inches. They are four-octave reed organs, with collapsible stands and operate from normal domestic power supplies.

The course, which starts next February, aims to make students familiar with the elements of music, develop aural perception, teach score reading and give them technical knowledge to practise harmonic and stylistic analysis of the period 1730 to 1900.

It is a second-year course and should enable students to go on to more advanced music courses.

The organs will cost the university £37 each. Students will have to pay a deposit of £10 as with all home kits. About 500 are expected to enrol for the course.

Students will also be sent 12 gramophone records and will learn to play the recorder, although these are not provided.

Study aids sent to OU students in the past have included sheep's brains, mini computers, cameras and microscopes.

Reading's grand finale

Reading University is to stage an open day tomorrow as the climax of the 50th anniversary celebrations. A fete, organized by the students to raise funds for charity, is among activities to be held.

East Anglia appointment

Professor Malcom Fraser, of the School of Chemical Sciences at the University of East Anglia, has been appointed pro-vice-chancellor of the university. He will take up the appointment in August and succeeds Professor Peter Hill.

Don's diary

September Saturday

Why do I always end up being late for planes, trains and buses, however much time I leave myself? I ask this as I painfully shuffle along a seemingly interminable corridor at Heathrow searching for BA 561 to Boston, lugging lecture notes, reading lists, and old examinations for a year's teaching back in the states in one hand and five bottles of malt whiskey with which to content the natives in the other.

The flight is smooth, the food excellent and the cabin crew the friendliest and most courteous I have ever met in 15 years of Atlantic trampings. The steward discovers that my slightly wan expression is due to the fact that I have rushed almost straight from the birth of our first child, a girl. He informs me that only real men produce girls (he has two) and gives me a double bourbon, compliments of the crew. I suppose I should, resolving to write BOAC (as was) about their excellent service. I never got around to it, though.

October Sunday

We are now happily settled in: me into my courses, Pip into our flat and baby Katie into her crib. I am teaching history for a year at Bowdoin College (where I went as an undergraduate years ago), a small, liberal arts, now coeducational college of about 1,300 students and some 100 "faculty".

Bowdoin has a long history (certainly by Lancaster's standards) and many famous graduands: a president of the Republic, Hawthorne, Longfellow (who incidentally outsold Tennyson in Britain for much of the nineteenth century), a chief justice of the Supreme Court, three United States senators, countless lawyers, public officials and doctors, including Alfred Kinsey, also quite a best seller in Britain.

Thus one should not be surprised to see the place encrusted, as are all ivy league colleges, with memorials, rather the way I imagine the mess halls of Scottish regiments are. There is the Stuart Franklin Brown Lobby in the new library, the Calder Mobile, the Catlin Path, the Chase Memorial Lamps, the Class of 1895 Path which leads to the Class of 1875 Osteory which is on the other side of the campus from the Class of 1903 Gateway. The Class of 1922 gave a fountain, 1924 a radio station, 1929 a set of electric chimes, 1942 a cross. Private benefactions are the rule, however, witness the Dane Flagpole, the Turner Tree and the Harry Howard Cloudman Drinking Fountain.

November Monday

My office is in Hubbard Hall, the gold library, built from funds donated by Civil War General Thomas H. Hubbard and his wife, Sibyl Fahnestock. He made quite a mint from railroads and banking and loved England: didn't they all? And so his hall is a passable imitation of Magdalen Tower complete with an empty saint's niche.

It forms a part of the handsomer elements of the eccentric architectural kaleidoscope which one can see on many American campuses. It stares at something which I take to be what people in 1892 thought an Italian renaissance façade should look like, the Walker Art Building; at a Tudor-Gothic horror, the science building; and at the undressed granite Romanesque chapel whose internal plan is supposed to represent an Oxford College chapel.

Originally I was stowed deep in Hubbard. However, in time I moved upstairs. Professor Van Cleve, who first came to the college in 1915 and is still working, can no longer take the stairs and I inherit his room. When General Hubbard was alive, it served as his bedroom. It is huge, oak panelled, has three closets and immensely impressive visiting Linneys.

Professor Brown, who tried to teach me the novel when I was last here, has the even more impressive living room. The assistant editor of *The New England Quarterly* has the bathroom.

December Tuesday

I bustle about the library hunting for books for the students to use and through the publishers' catalogues for books they can buy. The latter exercise is particularly heartbreaking. Gordon Donaldson's textbook on Scotland is not the £5 I expected it to be, but is £25.

The library is quite good with about 300,000 books. It has a wide range and, being not much under 200 years old, some of its stuff is unique and the Library of Congress makes frequent borrowings. It is nice to have the whole of the Scottish History Society publications, not to mention all of the *Acts of Parliament of Scotland*.

The age of the spaced-out, freaky and barefoot seems over.

But large gaps and minor hilarities abound. There is not one copy of Elton's *England Under the Tudors* to be found and the Jacobite section is a bit of material on the Jacobins. But such things happen everywhere.

January Wednesday

"Isn't everyone friendly?" says Pip. I agree, but wonder if it isn't just the tyranny of the "Hi!" at work again. You must appear friendly or else people will think you unfriendly, or hostile, or, worst of all, aloof. And so one is benign and smiles and tries to learn the local *patois*.

All American colleges have their own slang to a certain extent, especially the smaller ones, and it constantly changes. A "tool" is a kid who works all the time and who normally lives in the library. The library is usually called, you guessed it, the "toolshed".

Getting oneself into a proper mental framework for an examination or for a darts game which I institute between two of my courses is known as "getting psyched up".

Courses, too, have nicknames, some pretty graphic: "pubes and books" for adolescent psychology; and "nuts and sluts" for abnormal psychology. And a kid will say without the faintest trace of affectation that he is taking "boobs" or "sluts" this semester. I wonder what the underground came up with for my course in Scottish history?

January Thursday

The underground, by the way, is very underground. The age of the spaced-out, freaky, braless, barefoot locusts seems over and few nowadays speed, commune with the whole earth or lie on the grass wrapped in poetry, which is a shame. In this place has come a commendable earnestness, a still genuine concern for good works, such as teaching local Indians, and a worry about grades. "Tool" is still a term of some abuse, but many are not so sure.

The "greatest generation" of the 1960s has been followed by worries about unemployment and I wager that every student at graduation will talk of jobs that no longer await them and of how the $30,000 which their education cost may well have been wasted.

People still have fun, but it is awfully straight: fraternities have revived, college songs are once again sung and the ice hockey matches are gala occasions where all, including my wife and I, scream, boo and thrill as Bowdoin wins its championship.

The mindless conformity of the 1950s has gone and so too the freaky arrogance of the 1960s. And no bad thing either. But in its place, for many, has come a frown and a concentration on what's called "pre-professional training".

Winter Friday

The Brunswick Times Record plops into the house, flooding towards the comics and the TV listings, I run across an article on the troubles of higher education in Britain and this in a paper which normally would not report the Second Coming of it did not happen in Cumberland County. If my weekly fix of *The THES* is not enough, now I find six columns with Brian MacArthur and Harold Perkin telling me all about it again and Harold will get to me yet another time through the American AUT magazine.

I have a theory that (with the exception of Reagan's rise and Wilson's resignation) this has been a slow news year with no wars and few scandals. Hence news editors are desperate for copy. Two hardy topics emerge. One is that Britain is going down the drain: every serious magazine and newspaper in America has had one if not two major articles on Britain's current plight. The second solid space filler is the deep trouble in which American higher education finds itself.

Things are bad, even if one puts to one side the continuing struggles at City University of New York, something of a special case. Salaries are stagnating and academics' purchasing power is declining. Staff-student ratios deteriorate each year.

The cost of college to students' families is getting to the point where many middle class families can no longer afford to send their children to prestige institutions, but must settle for community colleges or state universities.

Certainly the job market is ghastly. For my replacement after this one year, over 40 candidates were interviewed and had the post been properly advertised the figure would probably have been nearer 150. Not all of these applicants were first rank, but most had PhDs, some teaching experience and a book on the way and some were very good indeed. Few of them have found any post this year.

May Saturday

What is called commencement (graduation) takes place out of doors. Parents cluster about all aflutter, dogs weave through the crowds, babies yowl and a brass band from Portland does all right by the Souza marches but is definitely uncomfortable with the less-familiar strains of "Rise Sons of Bowdoin".

The seniors troop past, sweating somewhat, bleary-eyed from the late night booze-ups the night before, their last beneath the pines of dear old Bowdoin. They look awkward in their musty and wrinkled black gowns, not to mention their unaccustomed suits and hair cuts.

The student speakers (a proud Bowdoin tradition) preach on, crack a few jokes and worry about the job market and all the money it has cost.

Honorary degrees are given, among others, to one of the largest wholesale grocers in the state, to a Catholic sister working with the poor of Maine and to Max Beloff. And then the folding chairs are carted away, the gowns are packed for another year.

Marcus Merriman

The author lectures in History at Lancaster University. For the past year he has been a visiting associate professor of Bowdoin College, Brunswick, Maine.

Do universities ruin good conversation?

KENNETH MINOGUE

The Cambridge philosopher F. P. Ramsey, who died in 1930 at the age of 27, is best known to a wider public for a remark that puts Pascal in his place: "I don't feel the least humble before the vastness of the heavens. The stars may be large, but they cannot think or love". Just the sort of remark, you might well think, to set off a good conversation. The irony is that these words are embedded in a paper, for a discussion society, in which Ramsey advanced the thesis that there is nothing more to discuss.

The paper is, for the most part, an unconvincing *jeu d'esprit* in which Ramsey produces squibs such as because he is being analysed he is no longer interested in talking about himself. One remark he makes does, however, correspond to the experience of many undergraduates: "I came up to Cambridge as a freshman enjoying conversation and argument more than anything else in the world; but I have gradually come to regard it as a pernicious scourge of foolish opinions. But conversation, like life, is always a first draft, and whoever values the spontaneity of the first draft cannot also demand the polish, indeed the wariness, of the second.

In an academic environment people are constantly being judged by the soundness of the opinions they hold, and this can often produce, among the educated, an extreme caution about making fools of themselves. Atmosphere of intense political or religious commitment may equally break down the politeness and civility without which conversation is impossible. Hence as Thomas Hobbes—who talked of human life itself as "the conversation of mankind"—observed: "Men have no pleasure, but on the contrary a great deal of grief, in keeping company, where there is no power able to over-awe them all."

A group conversing is a small society without government, and can be subject to subtle varieties of conversational terrorism. The problem, in Hobbes's terms, is that "every man looketh that his companion should value him, at the same rate he sets upon himself" and what makes conversation possible is the polite conspiracy that all participants are so valued.

Ramsey's main charge against universities was, however, the different one of technicality; and technicality is indeed hostile to conversation, though in a different way from the one he suggested. *Technical words* belong in "shop talk" and tend to have an *enfeebling effect* upon ordinary conversation, partly because they are irrelevantly impressive, and partly for the paradoxical reason that the precision making them valuable within their discipline makes them inexact and sloppy in ordinary conversation. For ordinary conversation requires the careful use of ordinary language which has multiple functions and requires a skill all its own, whereas technical words have a single function and do not have sufficient body to fill the chunky spaces of properly human discourse.

Conversational styles change, and are an important index to the quality of civilization. We no longer prepare topics of conversation before setting out for dinner, as our Edwardian forebears did. We have moved from the black tie of conversational art to the blue jeans of self-expression: from Cary Grant to, God help us, Marlon Brando. But what we should never forget is the salutary maxim of Epictetus to the effect that God gave us two ears and one mouth so that we should listen more than we speak.

civilization is complete without devices of this kind.

Conversation is somewhere between the "hot" talk of the emotionally involved, and the "cool" talk of the disengaged. But even within this area, a further distinction must be made. Clearly universities are great places for talk. From the class and the seminar to the conference and the symposium, the academic world is an engine for the organization of chat. But admirable as much of this talk may be, it is not to be identified with good conversation, because its main criterion is truth, whereas the main criterion of good conversation is the avoidance of boredom.

Avoiding boredom is achieved by precisely those things which make a good conversation a rather unsatisfactory seminar: the wild swings from one subject to another, often before some of the participants think that the previous subject was exhausted; the mixture of anecdote, personal reminiscence, statement of opinion, reasoning, epigram and so on.

In one obvious way, a university education is obviously a great boon to conversation, for it vastly increases the resources available for this kind of entertainment. The best conversation has always been found among those with disciplined minds and a wide knowledge of the world, and academics in conversation can resemble ballerinas doing the foxtrot: they have the grace of a professional skill employed in play.

In the supreme examples of talk, such as the dialogues of Plato, conversation and academic inquiry may almost, but not quite, be identified. For although the flexible character of Platonic dialogues allows them to incorporate stories, arguments and contemporary references, Socrates always has a plot in mind which gives his talk just too much adherence to count as conversation.

Further, Socrates does have one characteristic which in cruder hands may be seen as an academic impediment to good conversation. He was notorious scourge of foolish opinions. But conversation, like life, is always a first draft, and whoever values the spontaneity of the first draft cannot also demand the polish, indeed the wariness, of the second.

In an academic environment people are constantly being judged by the soundness of the opinions they hold, and this can often produce, among the educated, an extreme caution about making fools of themselves. Atmosphere of intense political or religious commitment may equally break down the politeness and civility without which conversation is impossible. Hence as Thomas Hobbes—who talked of human life itself as "the conversation of mankind"—observed: "Men have no pleasure, but on the contrary a great deal of grief, in keeping company, where there is no power able to over-awe them all."

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When Harlow says 'no' to eligible students

While universities lament worsening staff-student ratios and frozen building programmes, small colleges at the other end of the further and higher education scale quietly struggle to subsist.

Harlow Technical College, where even on the basis of student daily attendance, there are over 10 students per seat in the library and over six per seat in the refectory, is a case in point.

Full-time student numbers in the past five years at Harlow have almost doubled. They have risen from 351 in 1969-70 to 619 last year, an increase of 76 per cent. Student numbers as a whole, however, have dropped slightly from over 5,000 (including part-time and evening students) in 1970-71 to 4,723 last year, but this is largely because of an 11 per cent decline in evening-class attendance.

But the increase in full-time students who attend five days a week still means that the number of students coming into the college each day has increased. In the past three years student daily attendance has risen by 30 per cent. The number of staff, however, with the exception of two appointments, has remained constant at 132.

Mr A. W. Billington, the principal, says the college has coped with the situation by a more efficient use of resources and accommodation. Three years ago the college was not fully utilizing its staff; the level of use was around 80 per cent. This had now been raised to about 96 per cent.

He agrees, however, that the college has now reached saturation point. "Last September we took an extra 120 students, but this coming September we certainly cannot increase our numbers. We shall have to turn away eligible students."

The local branch of the National Association of Teachers in Further and Higher Education is particularly worried on three counts. It fears that the local authority will rigidly enforce the minimum class size regulations and close any class failing to provide enough students; that certain courses, particularly non-vocational and liberal arts courses, will be cut and that part-time staff are in danger of redundancy.

The problem next September will be one of priorities. Mr Billington says this will have to be on the basis of numbers; on whether a class is economically viable or not. Two classes already this year have been dropped because they did not recruit enough students.

The NATFHE members fear, however, that this will lead to the demise of the college as a comprehensive institution. The order of priorities for courses, they believe, will be first those sponsored by industry and commerce with liberal and General Certificate of Education courses coming last.

Mr Ian Turner, a lecturer in the general studies department, said that such a policy would in the long run be extremely damaging for the college. "It would be a purely economically orientated institution, geared to the needs of industrial society and not to the needs of the students."

A recent statement by Mr J. A. Springett, county education officer, indicates that the schools should be regarded as the institutions in which pupils should normally take their A-level courses following O levels. Further education colleges should retain an interest in providing A levels for mature students, it says.

But removal of the 16 to 19 GCE students from the further education colleges might mean that classes would be too small to run for the mature students. Mr Billington, however, maintains a belief in "the flexibility of the dual approach to education for the 16 to 19s" and would want them to have the choice of schools or further education colleges.

As far as other sections of the college's work is concerned, he insists that none will be dropped. "I aim to keep a balance; neither the college's community role or its non-vocational role will go."

In the meantime, prospects for present students are grey. The budget for educational equipment, books and material for 1976-77 is £65,300, almost £5,000 less than the year before, so the result will be a reduction in resources available.

Yet the library needs to be expanded by three times its present size; a case Mr Billington presented to (and was accepted by) the Department of Education and Science back in 1970. According to a report produced by the NATFHE members, it has one of the lowest seating capacities of any further education library in the country. Spending on books per student is under £1 a year.

As far as teaching facilities are concerned, staff are often there is a room, which makes tutorials extremely difficult. The NATFHE report cites as an example the GCE staff who share a room with four other members of staff.

The college's internal organization exacerbates its problems. A recent report by a district council working party concluded that policy making was *ad hoc* and unrelated to resource allocation. This is partly as a result of its rate of expansion. "We have been so concerned with growing that we have not had time to look at the way things have been going," Mr Billington said.

A working party has now been set up, however, within the college on future developments. In the meantime, a 12 per cent increase in student numbers in line with the national FE targets is out of the question, and existing provision is severely threatened unless the Government makes good its declaration that 16-19s are a priority.

Frances Gibb

Harlow Technical College.

LETTERS TO THE EDITOR

Chemistry review

from Dr G. Beech

Sir,—I read with interest the review of my recent textbook *Fortran IV in Chemistry* (*THES*, May 24). Clearly an author must expect criticism, especially when constructive, but some points raised by your reviewer indicate the need for a right to reply.

Firstly, I must reiterate one of my opening remarks in the text: "The main purpose of this book is to provide the core material for a course in which chemistry students study computing as an ancillary subject." Therefore, the intended audience was neither computer science students nor research workers, but instead, practising chemists and chemistry undergraduates.

An advanced treatise on modern numerical methods would be quite inappropriate in this case and that is why only the rudimentary procedures were used. Surely one could easily delve more deeply by reference to the many more specialised texts, some of which are in fact listed at the end of each chapter.

Admittedly, it was an oversight not to refer to the NAG collection, but, in fairness, only a small minority of potential readers (those in universities) have access to them.

It was particularly disappointing that the review dealt with, effectively, only one chapter of my book which accounts for only 13 per cent of its total length. This does seem a little unfair but I am heartened by the fact that other reviewers have taken a more balanced view by mentioning the wide and useful range of applications that are described.

The large number of purchasers in the United Kingdom and United States also seem happy with its content. This, after all, underlines the essence of my book—a practical guide for teachers of chemistry and their students.

Finally, to recommend potential readers to purchase, instead, specialized programming texts is strange indeed. At no stage does this book attempt to teach programming but purely to illustrate techniques, and whatever the stylistic defects of the programmes, they work!

Yours faithfully,
L. BEECH,
Department of physical sciences,
Wolverhampton Polytechnic.

Up-to-date Stirling

from Professor Neville Moray

Sir,—I can only hope that other universities who have the doubtful honour of a visit from Mr Wilby will make more certain than we did that his work is not done for him. Some 50 per cent of his article (*THES*, May 21) appears to be quotations from the Roger Young report, which was written and published prior to 1974—hardly the most up to date material for a young reporter to use, although obviously one which would leave him more time to enjoy his visit.

The standard of accuracy of his article is emphasized by his caption to the photograph of the Wallace Monument, which refers to it as a "ruin" when in fact it is a modern monument.

It is undoubtedly true that we have as many problems as most other universities. But despite Mr Wilby's decision to quote only from those who provided negatively critical information, many of us enjoy the students, the university, and the community. In my own case, as I told Mr Wilby, my decision to accept a substantial salary cut and return from North America was heavily influenced by my belief, which I still hold, that the Stirling structure can have the best of the North American degrees' flexibility and the British degrees' depth. I have found and continue to find it a stimulating environment with great promise.

Moreover, despite my colleague Mr Macfarlane's contention, I know of many colleagues who are involved in various ways, both social and professional, in the community. In our department we have research—albeit on a scale appropriate to a non-technological university, in North Sea related topics (as again I informed Mr Wilby)—and a wider variety of applied research conducted in Scotland than most psychology departments including work on driver training, handicapped children, psychological problems of disease, computer-aided medical diagnosis, etc.

Perhaps one day Mr Wilby may pay us a return visit. I hope it will be when he has learnt the art of balanced reporting using up-to-date sources, and in addition is less [illegible] from whom I feel no sorrow at being socially isolated.

Yours sincerely,
NEVILLE MORAY,
Professor of psychology,
Stirling University.

Printing processes

from Mr Robin Kinross

Sir,—It is pleasant to find an author interested in printing technology. Mr Robinson (*THES*, May 28) has, however, been misled. Hot metal composition in book printing is being replaced not so much by the sophisticated typewriter but much more by photocomposition.

At its best (Monophoto) this can produce setting that is up to the standards of Monotype hot metal composition. There are disadvantages, notably in correction; but if one is looking for a system that can produce decently set text, master for litho reproduction, then this will be it.

There is then no need to wonder about cold Linotype machines (nineteenth-century inventors tried them with little success). Those of us who dislike the aura of high technology that surrounds photocomposition and the grey, flat, lack of impression of litho printing, mourn the passing of hot metal and letterpress.

On the matter of justification, Mr Robinson is mistaken. The natural process is to set equal spaces between words, leaving the right-hand edge of the text ragged and breaking words rarely, if at all.

We do this with the pen and, when setting type by hand, it is easier and quicker to use a standard word space, filling out the left-over space at the end of each line with non-printing material (rather than distributing this left-over space between the words). Lines of equal appearing length have been possible only since Gutenberg—so anyone who reads books as well as looks at them there seems no advantage in this mode of setting.

But for 500 years text matter has been stretched and chopped to form beautiful rectangles—and we are now conditioned to think that justified text is somehow easier to read. That the composing machines should have been contrived to set lines of equal length as easily as (though no more easily than) lines with equal word spaces was indeed a remarkable achievement, but quite perverse.

It is just this procrustean imagination that allows manufacturers of sophisticated typewriters to force 18-unit hot metal typefaces into their coarse nine-unit frames—instead of designing typefaces in sympathy with their new machines. By contrast the single width characters of the old-fashioned typewriters have a certain honesty of purpose—the letter forms have been designed within the constraints of the machine.

It is just such a machine that a "new-left William Morris" would take to, deriving inspiration from the technical limitations; no chance of a straight right edge. But he might cement himself with running his fingers over the delightfully impressed pages of the *New Left Review*, now returned to letterpress after its recent litho phase.

ROBIN KINROSS,
Department of typography and graphic communication,
Reading University.

Learning error

from Mr Dai Hounsell

Sir,—The last sentence of the article by Noel Entwistle and myself, "How do students learn?" (*THES*, June 4) should of course have read:

"It is surprising, given the intellectual challenge in almost all teaching situations, *how few* lecturers see the research potential of their everyday experience with students."

Responsibility for this error rests, alas, with me and *not* with the staff of *The THES*.

Yours faithfully,
DAI HOUNSELL,
Institute for Research and Development in Post-Compulsory Education,
Lancaster University.

University pay

from Valerie Downes

Sir,—Your report on the Association of University Teachers' meeting (*THES*, May 28) gives the impression that council rejected the executive's salary proposals on the basis of reluctance to take decisions rather than well founded objections. I should like to state a case for rejecting part of the pay scheme.

University salaries have not risen enough from the erroneous assumption that the senior lecturer grade is comparable to the St. grade in polytechnics, when it should be compared to the principal lecturer grade. The AUT would be able to put into the hands of the people to support this idea if progression from lecturer to senior lecturer were to be made almost automatic.

Such a policy would have the effect of making the top of the salary scale the top of the career structure and it would be argued that it should correspond to the top of the SL grade in polytechnics. This would lead to a further degression in university rates of pay.

The AUT executive have failed to distinguish the different problems of salary levels and structure. Faced with a hypothetical portion of their members getting to the top of the lecturer scale they tried to appease the resentment of these members with the short term carrot of the pay scale.

This is not a valid alternative to continuing to press for reasonable salary levels. The structure of the posts must be maintained to provide rewards for merit.

Yours faithfully,
VALERIE DOWNES,
Department of Computer Science,
Brunel University.

NATFHE shift

from Dr R. M. Wood

Sir,—The reference in the editorial (*THES*, May 28) to the association of Polytechnic Teachers is singularly ill-directed. How can it be considered to be "bad news" for the APT to find that the Association of Teachers in Technical Institutions, the Association of Teachers in Further and Higher Education, is to be centred shifted "towards higher education" and to be strengthened in its "professional orientation"?

This is to assume that the members of APT are interested in the strength of their association rather than in the well-being of polytechnics or, even, of themselves. It is to imply that trade unions or professional associations have some "game" which is divorced from the policies which they pursue. However this may be for some well-known organizations we would hope that we, as professional teachers rather than professional unionists, have something better to do.

We may assure you that the Association at its annual conference, favouring polytechnic teachers, carries out salary negotiations in a manner which does not adversely affect the salaries of polytechnic teachers or admits the existence of needs in polytechnics which are distinct from those of further education, we will express our horror over one sinner that repenteth.

The feeling of my association is perhaps well summed up in a resolution which was passed at a recent annual conference, namely:

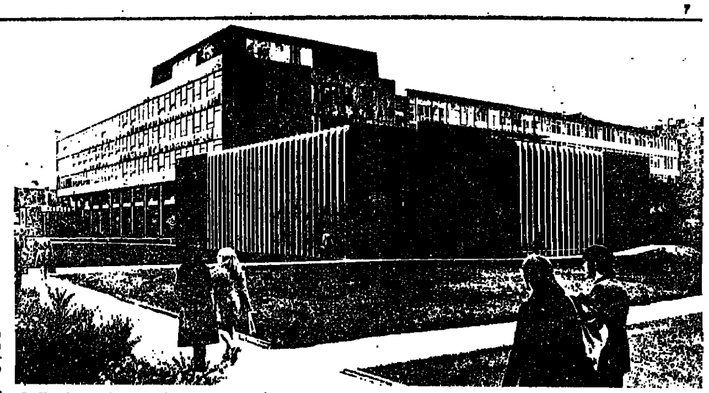
"In view of the repeated unfounded attacks from the university sector on their colleagues in polytechnics in respect of the comparative salary positions, it is a matter of regret to this association that other associations claiming to represent polytechnic teachers have done nothing to support the APT in putting forward the polytechnic viewpoint."

Yours faithfully,
R. M. WOOD,
Chairman,
Association of Polytechnic Teachers,
Sheffield.

Letters page 7

Should polytechnics and other colleges remain under local authority control? In the article below Professor William Taylor argues that the planning of all higher education, universities and the public sector, should be put on a rational basis. Next week Tyrrell Burgess puts the case for greater rather than less control of higher education by local government

Australian model for binary co-ordination



Indications of DES thinking would help university/college contact.

A powerful sense of hierarchy is at once the blessing and the curse of English education. It is a blessing in having helped to maintain academic and professional standards that, despite our political and productive weaknesses, are still the envy of those countries where such standards have never existed, or are fast being eroded.

But it is a curse because alike for institutions (the higher elementary school, the provincial university colleges, the secondary modern schools, the regional techs and CATs and now the polytechnics) and for individuals (the aspiring grammar school boy, the successful classroom teacher), forward has meant upward, into that category or status that a hierarchical society obligingly places within reach of the ambitious and the successful.

And for individuals as well as for institutions, the effort of hauling oneself up by one's bootstraps produces a particular attitude and character, a bourgeois orientation that intellectual aristocrats and proponents of the alternative society unite to deplore.

The binary system was an effort in the field of higher education to halt a process endemic to English institutional life. The effort was made for the highest motives. Institutional upgrading threatened to become intolerably expensive, and distracted the local, regional and occupationally oriented institutions from their main tasks.

It threatened to swamp the universities with tasks and numbers that might undermine their central commitment to excellence. In the form proposed by Robbins it placed severe limitations on the ability of central government to ensure that the system was socially responsive (could the recent cutbacks in teacher training have been achieved with so little bloodshed if the colleges of education had been incorporated into universities in 1964?).

For all these reasons, a dividing line between university and non-university higher education has now existed for more than a decade. Its relative impermeability testifies to the importance of the difference it represents. But the established distinctions are now under pressure.

Arguments such as those about regionalism and devolution, the salary consequences of Houghton in the context of incomes policies, local government reorganization, the setting up of the Council of Local Education Authorities, and the diversification of teacher education institutions within advanced further education, all contribute to a confused situation within which the future organization and administration of higher education has to be worked out.

The fact that a private member's motion to introduce a bill establishing comprehensive planning machinery was defeated by only 182 votes to 170 in the House of Commons on May 18 suggests the direction in which some hope progress will be made.

To believe that a new look is needed is not to align oneself with those rightly castigated by Sir Toby Weaver for believing that "twenty omniscient men and women, centrally recruited by undisclosed methods, should monitor . . . the educational life chances of our fellow citizens". What is important is to sort out what kinds of decision are best taken at what level and, to make arrangements accordingly.

Some decisions can be taken only by the individual student, or within a department or single institution—more of those, perhaps, than some of those with a rationalizing turn of mind would admit. Other decisions—about a wide range of non-advanced further education, for example—are best taken locally or within a region.

But this still leaves a series of tasks to do with monitoring, distributing, initiating, encouraging and articulating university and non-university development that need to be undertaken nationally in the context of a debate open to the contribution of institutional and course providers, validating bodies, and the professions.

What bodies need to be created to undertake these tasks? Given that advanced further education is provided not only in polytechnics, a "Polytechnics Grants Committee" parallel to the UGC is out of the question.

Would a national committee for APE (not did one have the resource responsibilities be anything more than a talking shop? What would it mean to give such a body responsibility for the distribution of resources, especially if this required a dual system with money for non-advanced courses being made available through l.e.a.s?

Presumably these questions are among those now exercising the Department of Education and Science in the wake of consultations undertaken on the CLEA proposals for new regional machinery. The department must be aware that it is not only among the ranks of the polytechnic directors that there is anxiety about the continued relevance of a local authority solution (even when exercised through new regional bodies) to the problems of higher education.

It is easy enough to point to ways in which our existing arrangements for planning higher education lead to duplication and to waste, and to call for new machinery that will, in the words of the Committee of Directors of Polytechnics, provide "an adequate system for the assembly and analysis of information from which criteria can be adduced so that the total resources committed to higher education can be most effectively used".

In recent months many people have said the same thing. They have been much less explicit about the form that such machinery should take, how it should relate to the existing responsibilities of the University Grants Committee of the local authorities and the DES, whether or not it should have any control over resources or merely act in an advisory capacity.

There are few models in existence elsewhere which provide any form of guidance. Perhaps the closest to our own needs is the proposal for a Tertiary Education Commission which the then Minister of Education tabled in the Australian Parliament during the last months of the Whitlam administration.

The Australians have for some time had, alongside the Australian Universities Commission, a Commission on Advanced Education, no counterpart to which exists in this country.

The committee charged with advising on the amalgamation of the two bodies considered and rejected models which, on the one hand, would have involved no future distinction being made between universities and colleges and, on the other, would have left the existing commissions with their powers and responsibilities and merely provided co-ordination.

Instead, they recommended a new commission with subordinate councils for universities and advanced education which would assist the commission in its work and also exercise delegated powers, served by a single secretariat.

The Australian Tertiary Commission would have four full-time members (a chairman, and commissioners for universities, colleges and capital programmes) and six part-time (two advanced education, two universities and two other). The two councils would each have seven part-time members, under the chairmanship of their respective full-time commissioners and with the commissioner responsible for capital programmes having a seat on both bodies.

The commission was to advise the Minister on finance and the allocation of resources and to administer the approved programmes, all with a view to "promoting the balanced development of universities and colleges and the co-ordinated development of tertiary education".

The task we face in trying to put the whole of higher education planning on a rational basis is a good deal harder than that of the Australians. They already had triennial financing for both universities and advanced education, and parity of salary scales between the sectors.

In this country one cannot but be struck by, on the one hand the complexity of the decision-making and accounting procedures that characterize the calculation of rate support grants, the operations of the pooling and the Burnham grading committee, and institutional planning procedures in polytechnics and colleges and, on the other, the apparent simplicity of UGC and university practices.

It is also noticeable that, while the UGC has a well-established set of specialist committees that can give advice on a subject-by-subject basis, no such structure exists for the public sector.

If we wish to front the issue of national coordination seriously, then many established positions and practices will have to be altered. CLEA will have to drop its idea of the "seamless web" of further education, embracing everything from day-release to postgraduate research.

The political drawing power of this notion, and the flexibility it appears to offer, have to be weighed against the importance of a properly planned structure of higher education for the national and international interests of this country. Any system of dual financing would have to be designed to minimize the pressure on staff and institutions to sacrifice useful lower-level work in favour of advanced studies.

Local authority-based regional bodies could still have an important advisory role, although not that envisaged for them in the CLEA proposals. A balance would have to be struck somewhere between the claims of institutional freedoms and autonomy and the avoidance of duplication and waste of resources.

At present our public sector planning mechanisms assume that a clear distinction can be drawn between course distribution decisions based upon need and demand, and the academic judgments of the validating bodies.

There are occasions, however, when a new and able group of staff need to be given a chance to try their course in the market, even when existing "needs" are already met by a well-established but academically indifferent programme elsewhere.

It is to be hoped that somewhere all these and the many other questions to which the co-ordination of university and non-university education gives rise are being energetically pursued.

It is unfortunate that so many of the organizations whose views will need to be taken into account are relatively new, and that until recently there have been only very tenuous formal and informal links between on the one side university bodies such as the UGC, the Committee of Vice-Chancellors and Principals and the Universities Council for the Education of Teachers, and, on the other, the Regional Advisory Councils, the Committee of Polytechnic Directors, the DES Further Education Inspectorate and the CNAA.

Some indications from the Department of Education and Science of the way in which it is thinking would facilitate and encourage more sustained contact and discussion between university and public sector bodies of a kind that, whatever the outcome, could only be beneficial to future relationships between universities, polytechnics and colleges.

The author is director of the University of London Institute of Education.

Student transfers could be 'commonplace' by 1980s

William Johnston and G. Richardson argue the DipHE will break down isolation between institutions

After the first year of existence of the Association of Colleges Implementing DipHE (ACID), and with the first diplomates about to qualify, the question now is where we go from here.

Until recently, the Department of Education and Science has preferred to avoid the limelight and allow the development of DipHE to be seen to occur without overt Government support or direction.

The DES argument has been that first it was better for any new venture if it was not seen to be developed directly out of the portals of Elizabeth House, second, that in any case the department could not really do very much about it, and third, that there were so few DipHE courses about last year that it was not worth it anyway. But now, DES figures show that 77 diploma courses have been approved.

At the annual general meeting of ACID in January, Mr Fowler indicated that for the first time the DES would be taking a positive line in promoting the new diploma. The department would look to ACID for guidance on ways and means.

At the same conference, however, there was an unmistakable warning note from Eric Robinson that the scramble to provide DipHE courses there could be no room for the second-rate. He wanted coherent, rigorous courses initiated with boldness and vision. Some of the present DipHE courses can hardly be said to fit this description.

As well as the problems inherent in establishing the nature and standard of the new qualification, however, there are also important questions to be asked regarding its value and relevance in the present economic climate. The promotion of the new qualification with or without the assistance of the DES is only worthwhile if the new qualification itself is worth promoting.

The educational world has shifted dramatically and irreversibly from the position it occupied when a government document could be titled *A Framework for Expansion*. Is there really room in the dark days ahead for a two-year non-vocational course of general education where even the most idealistic of sixth-formers will be looking at higher education primarily in terms of career prospects?

In many institutions, the DipHE has been seen as a means of diversification. But the old colleges of education—where the bulk of the present DipHEs are currently on offer—seem best equipped for the development of liberal arts courses, while the demand is inevitably going to be for linked arts/technology courses.

The same colleges, faced with severe cutbacks in teacher-training numbers, will see the diploma as a lifeline. But such diversification will require a considerable change of staff attitudes and direction in which not all will be suited or wish to partake.

Another obvious difficulty stems from the comparatively small size of many of the colleges of education. Inevitably this will mean a very limited range of internal post-DipHE opportunities compared with choices in polytechnics.

The colleges will have to develop strong links with other institutions to ensure that their DipHE students are confronted with a sufficient range of post DipHE courses. Yet militating against this will be the fact that many of those same DipHEs will contain a professional or vocational element within their structure which will make the transfer into non-education degrees that much more difficult.

There are no easy answers for any of this, and it is clear that the polytechnics will have relatively fewer difficulties when it comes to implementing DipHE programmes.

On the positive side, there is already considerable work under way on inter-institutional transfer between DipHE and degree courses. Much of this work is being achieved under the auspices of ACID, which has set up its own working group to look at problems.

It is symptomatic of the recent upheavals in attitudes to now-find institutions who previously had found cooperation so difficult, declaring their willingness to accept each other's students at set points in a course programme.

Even the Open University is now on the act.

So far the numbers actively involved in the work of ACID is relatively small. But from the evidence of the interest shown in its work, the number of institutions wishing to benefit from such work is considerable.

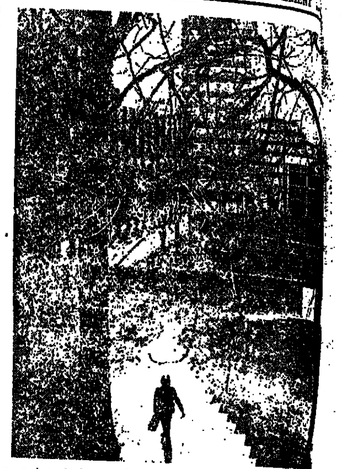
The partnership of DipHE award-bearing institutions, through the medium of ACID could well be one of the few ways of light through the educational dark ages into which we are about to pass.

Inter-institutional transfer, at present a rarity could, through the DipHE, become a commonplace of the 1980s, and finally destroy the present isolationist credo that the best way to obtain a degree is to sit still in the same place for at least three years.

Mr Johnston is course coordinator for the DipHE at Manchester Polytechnic, and Mr Richardson Principal designate of Queens College, Glasgow.

Hongkong rekindles challenge

A year ago Dr Keith Legg resigned as director of Lanchester Polytechnic, Coventry, to take up a £14,500 a year post as director of the developing Hongkong Polytechnic. Former pro-vice-chancellor of Loughborough University, Dr Legg had only been at Lanchester for three years. In his office in Kowloon, he described the reasons for his move and his experiences during his first year to Natalie Graham.



"The main reason why I came here was for my family. My sons are at university, I wanted to work abroad again. I knew North and South American very well, but the Far East is an area I had no knowledge of. "I came out here first to see what it was like, and was most impressed with the enthusiasm. Once somebody decides something is to be done, people quickly get down to doing it instead of talking about it. This is quite apart from the fact that the growth rate of the polytechnic is phenomenal, even though it is at a fairly early stage of development."

Dr Legg believes he has a unique opportunity to influence that development. "I find that attitudes here have not yet settled; in the UK they are entrenched and any changes must take place more slowly. But then England is a highly developed society with sophisticated industry and commerce whereas in Hongkong there is a great deal to be done.

"Industry here has gone through the initial stages of being able to exploit cheapness of products through cheapness of labour. It must now become more competitive by turning out more complex products. Commerce is using more complicated techniques, and education must produce the right sort of person to cope. After all, Hongkong's only natural resource is its people.

"I came in May 1975 on a four-year contract, and will be here until I have set the poly moving in the right direction. I reckon it's a job for between four and six years, certainly no less than four years. I believe I will do this and one other major thing before I retire.

"At the moment the economic climate looks very good for Hongkong, and we have produced a completely new polytechnic development plan. I believe the staff here are better qualified than the average teacher in the UK. More significant is that they have an average of seven years' professional experience in addition to seven years of teaching.

"I left the UK at a time of particular problems with higher education. It is well known that the local education authority in Coventry was not really supporting the poly. Most I.e.a.s felt that polytechnics were a burden on rates at a time when the Government was asking to put more money into other local problems. L.e.a.s were having to determine individually their priorities, which was not the way to develop the polytechnics."

Dr Legg compared the system of funding in Hongkong with that in the United Kingdom. "Here we are funded by a joint committee called the University and Polytechnic Grants Committee. We are quite an autonomous body. Basically, our funding is rather like that for universities in England. This is another reason why I was interested in coming here.

"No doubt what intrigued me most was the fact there are few places in the world where an English person could go and found some new institution. I would expect that when I move on a local Chinese will take my place, as has been the case with Hongkong University."

Dr Legg said he might like to work again in a developing country. "If the same opportunity came along again I would not mind doing it. I have always been involved in developing things, such as aeronautics work in Brazil. I took the Lanchester job specifically on the basis that it would develop from 3,000 to 7,000 students."

Commenting on current United Kingdom trends, Dr Legg said: "Although I believe the cutbacks during a recession I think that in fact Britain is putting education too far down the list. Education in terms of priority has gone down considerably, even its ranking in the Cabinet. In England there is a need for more central planning in higher education, and this does not exist. I believe they are now considering a reorganization on a regional basis."

He did admit, however, that unsatisfied demand for higher education was much lower in the United Kingdom than in Hongkong. "In England there are few qualified people who cannot further their studies, but this is not the case in Hongkong.

"Already the demand for places in higher education is enormous. There are 50-60 applicants for each place. At the moment advanced education offers 4-5,000 places per year. With a population of four and a half million, and over half the people under 25 we could say that really 50,000 places are needed.

"Applicants are sifted to the point where they are interviewed. School leavers who have worked since the age of 13 and taken night classes are often more suited than those straight from school with A Levels. We are trying to limit the intake in such a way that we do take a proportion of different levels of ability.

"Age here is very different. There are people in their teens in the primary system, and some secondary students are in their twenties. The maximum starting age at the polytechnic is 20-24. There are quite a lot of girls, mostly in business studies, accountancy, design and textiles."

Dr Legg went on to describe how the Hong Kong Polytechnic caters for students' personal problems.

"We have a student welfare officer, a resident nurse and a doctor who comes every afternoon. There are strong family ties here, placing obligations on children which do not exist in England. The Chinese students are basically much less mature. Nearly all of them live with their parents in a close knit situation. I think this is a national trait and maturity is delayed by the shelter of the family.

"By far the greatest problem is failing examinations, which means a tremendous loss of 'face' with family and friends. If we have large tutorials in the polytechnic it is very difficult to get the students to discuss things, because they do not want to lose 'face' in front of their colleagues and teachers. But it is quite different with a group of two or three students.

"We have deliberately included a new way of teaching in our plan, which places more emphasis on self-learning and individual and group tutorials.

"We have quite a high drop-out rate because a number of students get the opportunity to go to university or study abroad. Lack of money is another factor.

"There is a problem in money for fees, as 5 to 20 per of the students are very poor, average earnings of the first three per capita is about HK$600 per month. The bottom are supported by their fa

Dr Legg continued: "I some full-time students work over 10 hours although I have more those taking evening c

"Industry and commun are not conditioned to release for their although there are a numb dustries who do. In a sen only have to educate the but also industry and com and this is a difficult prob

On the whole the stude had few problems adjusting new environment. "Peopl put themselves out to help feel a great desire to lea nese but have not time to about it. I think the best to learn for an hour or ing."

Although Dr Legg has about leaving Lanchester, there is no finer place to land to live in.

"I must say I intended at Lanchester longer than years. I wanted to fulfil lenge there which I felt I appeared, but I found it has tremendous enthusiasm in quarters as everyone wants the polytechnic develop."

How Leeds saved the news for posterity

Much of the significance of the General Election in February, 1974, was conveyed to the electorate by radio and television news broadcasts which could be important to future historians wishing to chart the events leading to the Tory downfall.

Yet, were it not for what started as an illegal project at Leeds University, they might never have the opportunity to see them.

Broadcasting organizations keep as little as 10 per cent of their total output, the rest is thrown away. Therefore, although newsreels of the 1930s exist, because companies in those days did not think they had the right to destroy them, there are virtually no records of news broadcasts during the past 20 years.

More hopeful times for Ted and Jeremy during 1974.

Dr Jeremy Tunstall, senior lecturer in history at Leeds and director of the Film and Sounds Records Project, to breach copyright law and undertake the task of recording all radio and television news bulletins and all associated current affairs programmes of the 1974 election.

"The February election was obviously going to be an election of great significance; and by that time much research had shown that the impact of television and newspapers on electoral choice to be very great indeed. It seemed to me, therefore, that having lost all the material from the 1950s and 1960s, it would be a crime if we did not do something about it."

So with the staff of Leeds University Television Service, whose director is Mr Derek Holroyde, he recorded as much as possible of the broadcasting output during the campaign. This included all national news (the whole bulletin was recorded so that researchers would be able to determine the priority and air time given to election items), all national current affairs programmes, including phone-ins, and as much regional material as possible, in particular, Scottish programmes.

Under the Copyright Act of 1956 no-one is allowed to record and retain broadcasting material except for private purposes, and even then it must not be displayed to anyone else. There was not time before the election to obtain permission from the broadcasting authorities, so the Leeds project went ahead and the authorities were informed immediately afterwards, together with a request for some sort of agreement to be worked out.

The agreement had to ensure first, that the broadcasters' copyright obligations to their contributors were safeguarded; second, that the broadcasters accepted that the material should be retained for historical record, and third, that there should be access to the material for scholars and researchers.

After nine months' negotiating an agreement was worked out whereby the BBC and the Independent Television Companies' Association agreed to license Leeds University to record and retain, on the companies' behalf, the news and current affairs output in election times, including referenda. At the same time, the Social Science Research Council agreed to finance the recording of the election material and became signatories to the agreement.

Since then, under the project, which is coordinated by Professor D. N. Pilks, chairman of the School of History, Professor Jay Blumler, director of television research, and Mr Pronay, the October 1974 election and the EEC referendum have been recorded. Altogether there are some 500 hours television and 250 hours radio material on tape and videocassette.

Another reason why broadcasters do not keep more material is that for some programmes there is no one tape to keep; the programme comprises sections of tape and inserted interviews and only comes together in the format of the programme at the time it is actually transmitted.

So arguably there is not anything for them to preserve." Mr Pronay said. "What is kept at present is selected on the basis that is might be used again rather than on historical criteria."

[illegible] what will happen to the tapes in 50 years time, but tests are being carried out on video cassettes in American and, Mr Pronay said, had proved satisfactory. If the tapes did deteriorate, the material would be re-recorded.

Space is not a problem. One reason why the broadcasting authorities did not keep much material was that they recorded on two-inch tapes which took up an enormous amount of room, Mr Pronay explained. Second, the cost of the equipment needed to play them back ran into thousands of pounds. "To try to persuade the broadcasters to keep their original tapes is asking for an enormous contribution in terms of money and storage."

Leeds records on video cassettes, which are small and accessible, can be replayed quite easily with the minimum of equipment. Very little money needed to be spent because, apart from the Television Centre, which is well provided with equipment, the university has purpose-built audio-visual fa All that was required was automatic recording mach enable late night programmes recorded without supervision.

On the issue of access, the ment embodies the same rule apply to all collections of papers and historical doc that the university library h Leeds has agreed that the cast material may not be from the library, either pe or electronically; that no co made of the material and the be limited to bona fide resear

The most concentrated use far has been in connection wi study of the 1974 election b by both the Conservative Labour parties and the and Independent Broad Authority.

So far the recording project confined to elections, but in future it may well find itself a wider brief. "Clearly the b body of current affairs is a torical significance", Mr Pro said. "What we are working towards is to evolve a sy whereby the whole of new current affairs is preserved there would have to be a sep agreement for that."

In the meantime, what the ject had achieved was to show such preservation was possi both legally, economically without great storage problems said. "And when you consi that according to a recent BBC vey, the broadcasting media regarded by four fifths of the lation as their main source of mation, you need to preserve is broadcast."

Frances Gibb

Britain: few qualifications placed on grants.

European trends in foreign students' fees that Britain has not followed

The retention of registration and tuition fees for foreign students by a handful of countries, including Britain and Ireland, should not be allowed to hinder increasing student mobility, according to the authors of a recent Council of Europe report.

While rejecting the possibility of harmonizing fees and study support systems across the continent, they warn against the possible effect fee discrimination might have in discouraging foreign study.

In the short term, they suggest that student cards be made more international so that foreign students, whether on full-time courses or not, could gain equal access to indirect benefits such as subsidized board, lodging and travel.

More significantly, however, the report and the 20 national studies which go with it—embracing all Western Europe except Spain—show that Britain is one of the few countries not to have followed the trends towards abolishing fees and adopting a mixed grants and loan system.

Prepared for a meeting of the council's committee for higher education and research held at Linköping, Sweden, the report lists Britain, Ireland, the Netherlands, Belgium and Switzerland as the only five countries still charging tuition fees to virtually all students.

Another 12 countries have abolished them more or less completely, while France exempts grant-holders, Italy exempts grant holders and those from poor families, and Portugal gives students the possibility of total or partial exemption.

The situation for foreign students is harder to ascertain as only 14 nations provided the relevant information. However, a majority of those who did make no distinction between home and overseas students and, of the rest, only Britain and Ireland automatically charge higher fees.

Foreign students in Belgium and Cyprus may also have to pay higher fees, but only for studies at two institutions in Cyprus and when they make up more than 2 per cent of the total of home students enrolled on the same type of course in Belgium. Other countries levy the same fees for all, but of these Austria and France exempt scholarship holders and Italy allows them a 50 per cent reduction.

The national studies show that all nations except Malta offer some sort of aid to students, but only Britain, Ireland, Belgium, Austria and Switzerland restrict themselves to grants. Most of the rest operate mixed systems — often with the emphasis on loans — a solution currently also being examined by the Austrians.

Outside the British Isles grants are usually seen as a way of relieving rather than removing the financial strain on families who are still expected to provide the main element of support. And in countries where loans are supplemented by grants, the free allowances are designed either to encourage excellence or moderate students' investment in their own education.

British grants at a maximum of £740 for those living away from home but outside London and £570 for those at home are among the highest. In Belgium, where differentials are based on how advanced studies are, they range from between the equivalent of £210 and £310 for first-year students to between £295 and £410 for those in later years.

In addition, student or parental income thresholds in Belgium and France are sufficiently high to result in only 40-45 per cent of Belgian students and 13 per cent of French students receiving grants. In France students of parents with two dependants earning more than £1,705 (14,500 French francs) are ineligible for awards and in Belgium the corresponding figure is £3,535 (255,938 Belgian francs).

Support in the Netherlands and Federal Germany, where grants are supplemented by loans, is more universal. All German students qualify for monthly allowances of £90 (DM440) if they live at home, or £109 (DM500) if not. However, these figures include basic interest-free loan elements of DM70 and DM80 respectively. In the Netherlands the larger loan share of support is interest-rated at 8.75 per cent.

The charging of interest in countries favouring loans rather than grants is now usual, largely because of the effects of inflation. The Dutch authorities abandoned interest-free loans when they found that students were repaying 50 per cent of their real value and in Iceland, where the value of the currency has plummeted, this figure was as low as only 15 per cent.

Current interest rates range from that charged by commercial banks in Denmark, between 12 and 13 per cent, to Iceland's 5 per cent. Of the other loan-favouring countries, Sweden operates a cost of living related interest rate and in Finland the Government pays 4.75 per cent to the students' 4.25 per cent.

Actual loans depend largely on costs within each country. Sweden with one of the highest costs of living in Europe offers students 14,000 Swedish kroners (£1,772) a year as well as an additional 2,500 Skr (£316) for each child a student has under the age of 16. Danish and Finnish loan maximums on the other hand are around the £1,100 mark.

Most loan countries operate some form of supplementary grant support. In Iceland it comprises scholarships to the brightest school-leavers, in Norway it covers the cost of living away from home and in Sweden and Denmark it amounts to state relief in keeping down otherwise impossibly high loan debts.

Repayment rules are vitally important to graduates starting work and families. They can also provide a useful weapon for the state in discouraging study failure. Most countries allow a period of between one and five years between graduation and the start of repayments, although this can become somewhat academic where interest is high and charged from the time the loan is made.

Danish students, for example, are reluctant to delay repayments when present interest rates compounded over the usual six years of their first degree studies—a masters' degree as there is no equivalent of the bachelor award—mean that they have to repay 137 per cent of the actual loan if they start to do so on graduation or 173 per cent if they delay two years.

Periods during which repayments have to be made also differ ranging from 20 to 25 years in Sweden to a time twice the length of studies in Cyprus and Finland. In Norway it is wisely related to both the size of the loan and the anticipated income of the borrower.

The criteria for receiving grants and loans are usually the same: the income of the student and his or her family and satisfactory academic progress, although income is less important in loan countries, particularly in Scandinavia. The location of studies in relation to home is also important in determining size of support.

Unlike Britain, where few qualifications are placed on grants, apart from completing studies within the normal period, many nations offer a range of sanctions and incentives. Perhaps the greatest is Luxembourg's offer to convert loans into grants if studies are successfully completed.

Rules on academic progress include France's that students cannot change study course, the Greek demand for "good conduct" and annual progress reports in the Netherlands. Also, in Federal Germany, students have to sit an examination at the end of their fourth term.

The most stringent rules are those of Turkey. There, grants are not available for married women, the handicapped and those who cannot obtain certificates from their faculties as to their "diligence, honesty and loyalty". In addition, loans must be repaid almost immediately and within a period the same length as studies if students drop-out. Aid also ceases if a course has to be repeated.

Assessment of means is usually carried out by a government agency or local authority. In Portugal, however, documentary evidence must be supported by consultations with a social worker, and in Cyprus, where loans are obtained from two banks.

The report draws few conclusions, but it is noteworthy that the trend is towards not loans, but grants and loans together. While the expense of grants is often restrictive loans cause repayment problems. Supplementary grants offer the possibility to tie the remaining loan element to a realistic interest rate.

Another reason for the drift from pure loans systems may be that many governments currently have policies to try to equalize lifetime earnings, which, if successful, would penalize those burdened by large study debts.

But in the end it is very much a case of one man's equality is another's inequality. In Britain the staunchest supporters of the present grants system are the Labour Party who see it as a means to tie support to family income size. In Sweden their Social Democrat colleagues argue that loans not only provide equal access to higher education, but also reduce inequalities in later life, graduates having to pay for the privilege of raising their income prospects.

The implication of loans, however, is that students must get value for their money. Graduate unemployment becomes less tolerable and the state often has to take a greater role in strengthening manpower planning in education, a step both controversial and far reaching in Britain.

Mike Duckenfield

Picture-postcard college with eye to real world

One of the more surprising quips made by Mr John Wyatt, principal of Culham College of Education, is that the Oxfordshire countryside surrounding his college possesses more holders of PhDs than sheep.

That statement is designed to shatter the deceptive rural image that surrounds Culham, an Anglican college situated near picture-postcard villages in the Thames Valley. Culham, in fact, serves a major area of professional, white-collar commuters and also a number of highly sophisticated industries from atomic energy to technological firms in Wallingford and Didcot.

The large number of professional people in Oxfordshire, together with the college's special links with a local council housing estate and the East End of London, are two points in the college's case to develop as a national teacher-training institution and also a local adult and community college.

Culham is the last of 17 colleges facing closure under the Department of Education and Science's present reorganization of colleges of education. The Government has a choice of closing Culham or the College of All Saints, Tottenham, in the London borough of Haringey.

Although the department has not made up its mind, the recent decisions to close three Anglican colleges included a rider that Culham rather than All Saints should cease to train teachers, although no final decision would be made until after the college had made its representations.

Since then the Church of England Colleges working party, which examined the merits of the college's case, has by contrast reaffirmed its decision to retain Culham rather than All Saints. A decision is expected to be announced soon since the Government must decide on the intakes to all colleges of education for September next year.

Mr Wyatt is placing great hopes on the college keeping its role as a national teacher training institution. The college has successfully applied to the Council for National Academic Awards for validation of a new bachelor of education degree with an intake from September next year.

At present validation is with Oxford University but the college will eventually switch entirely to the CNAA.

The college was founded in 1852 by Samuel Wilberforce, Bishop of Oxford, as a men's institution. It was threatened with closure twice, at the end of both World Wars, and is now facing its third challenge to its existence since 1918.

The massive expansion of teacher training in the 1960s led to the doubling of the size of the college. Women were admitted for the first time in 1967 and now form about half the students.

Its contribution to the training of teachers, including its interest in special education, has been acknowledged outside. Dr Harry Judge, director of the department of educational studies at Oxford University and a member of the James committee on teacher education, said: "Culham has provided a long-standing and firm commitment to teacher education which would be greatly missed in Oxfordshire."

The ability of the college to organize coherent teacher-training courses certainly impressed the CNAA. The college is in fact one of the few to get quick approval for its size.

Culham's secret has been to concentrate on small numbers of subjects and to develop them well rather than attempt a wide range of courses. The main subjects cover special education, youth and community work, religious education, music with main subject courses in English, history, geography and science.

The rationalization exercise under Circular 1/76, has seen the end of major studies in physical education, mathematics, design and French, which will leave the college if it has fewer numbers, to concentrate on its strong courses. There are no plans at the moment for any bachelor of arts courses although the college has to interest in the diploma in higher education, possibly connected to degree courses at polytechnics or a university, especially in social work.

Approval from the CNAA or plans for new courses are not enough to justify its future. Mr Wyatt believes that the community and Christian ethos of the college is another of its strengths. He calls his college a "Christian learning community" but shuns dogmatic approaches.

"I am not interested in sectional bias or in an exclusive Anglican community. We are keen to welcome people from all faiths or none at all provided they are prepared to be open minded." Mr Wyatt even admits that his vision of a pluralistic community extends to the Marxist or Atheist, who can often provide the religious minded with a real challenge to their beliefs.

Many of the new plans for the college have been coordinated by Mr Andrew Henderson, general director of studies. He comes from the unusual background of local authority work rather than traditional teaching.

He has provided the impetus for presenting a coherent case to the CNAA, one of a number of people in colleges whose careers have been dramatically changed over the last few years because of the need for curriculum planning. He also provides the spearhead for the youth and community work programme which has links in East London with the boroughs of Hackney and Tower Hamlets.

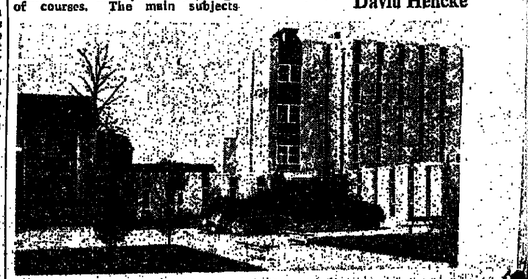
The college regards its links with the East End as one of its virtues showing that it is not a sleepy rural institution sheltered from the problems of the outside world.

Mr Wyatt claims that the college has managed to attract a number of students from working class areas because of its interest in special education and youth work. "Many students like the idea of training in a different environment from their home background. They enjoy the prospect of being able to come and train in London and train in an area surrounded by pleasant countryside. We then find that refreshed by their experience they are prepared to go back and work in areas like the East End."

He cites a number of examples of dedicated, idealistic students who have taken up appointments, including one who is working in a youth centre on the Isle of Dogs and a number teaching in Tower Hamlets and Hackney and have survived.

The future of Culham is now, however, firmly in the hands of Mr Fowler, Minister of State overseeing Higher Education. He has already made it clear (*THES*, June 4) that small institutions of 450 students are at risk because they may not be able to diversify. He is prepared to leave a number of rural colleges which have a strong case on academic and recruitment grounds. Whether Culham falls in this category is now a matter for the minister's judgment.

David Hencke



Culham College: new teaching block.

Time to reappraise the Technician Education Council

The TEC was established three years ago to develop policy for all levels of training. Iolo Roberts doubts that some of its aims can be achieved under the present organization

When the Technician Education Council was set up in March, 1973 after some four years of waiting, it was heralded as marking the introduction of a new era in further education.

Three years later, there is not only a growing concern about likely outcomes but also an increasing climate of disillusionment about whether much that is really worthwhile will eventually be achieved. To understand why this should be so, we need first to remind ourselves of how TEC originated.

In 1967 the National Advisory Council on Education for Industry and Commerce (NACIEC) established a working party under the chairmanship of Dr H. L. Haslegrave to "review the provision for courses suitable for technicians at all levels (including corresponding grades in non-technical occupations) and to consider what changes are desirable in the present structure of courses and examinations".

The need for the review was twofold: firstly, that the existing provision was both complex and inflexible, and secondly, that the concept of a "technician" had changed very substantially in recent years.

When the Haslegrave Committee reported in 1969 it recommended the development of a much more unified system of courses and examinations than we have at present and advocated the establishment of two major bodies the Technician Education Council (TEC) and the Business Education Council (BEC) to develop such a system for industry and commerce respectively.

Four years later TEC was eventually established, its terms of reference—as announced by the Secretary of State for Education and Science—being "the development of policies for schemes of technical education for persons at all levels of technician occupations in industry and elsewhere".

TEC was also required to plan and keep under review the development of a unified national system of courses for such people and to devise or approve suitable courses, establish and assess standards of performance, and award certificates and diplomas as appropriate".

In its preliminary statement, the council interpreted its role as being principally concerned with setting standards, awarding qualifications and promoting advances in technician education. In addition it emphasized that it did not see itself as primarily an examining body.

Another important function would be to produce a more rational and simplified range of courses avoiding unnecessary duplication of provision.

A detailed examination of the subsequent policy statement highlights some important features the full implications of which are not always sufficiently recognized.

First, since the council is not primarily an examining body the examining must be undertaken elsewhere; in this instance within the colleges, with TEC acting as the validating body, very much on the lines of the Council for National Academic Awards.

Secondly, a rational and more simplified range of courses provides the basis for just four awards, the Certificate and Higher Certificate, and the Diploma and Higher Diploma.

However, implied in such an approach is the assumption that the current dual provision—City and Guilds plus National Certificate/Diploma—can be replaced by a common system suitable for the whole ability range, a challenge comparable to that being faced by the Schools Council in rethinking the 16 plus examination system.

The preliminary statement also includes the following brief paragraph on curriculum development: "There will be a continuing need for programmes to develop and be adapted, and for new schemes to be introduced in line with the changing needs of industry and of the students. TEC will both participate in curriculum development and encourage development work on the part of others."

Hindsight suggests that it is here that we have the underlying cause of subsequent concern about developments in the past three years. The council has from the outset allowed its curricular function to be secondary to its organizational role.

The council's chief officer is supported by a small but growing number of full-time advisory staff, the administrative services being provided by City and Guilds of London Institute staff who work full-time for TEC. However, the major responsibility for designing programmes for study has been devolved to 22 programme committees grouped together in three sectors.

While the total membership is around 400 divided equally between education and industry, the initial selection procedure seems as though it was based more on a need to balance the numerous interests jostling for representation than on proven curriculum expertise. Furthermore there is a real danger that the eventual outcome will be the development of a highly bureaucratic two tier organizational structure.

All committees work to a brief that programmes or schemes of study should be designed on a unit approach, a unit being defined as "the knowledge and skills which the average student will be able to acquire in 60-70 hours of study in college".

Within this framework there will however be two basic types of schemes: those completely made up of TEC standard units and those based on units designed by a college or group of colleges or alternatively combining standard and college units.

The aims of programmes leading to the council's awards as defined in the relevant administrative circular (TEC 3/75) include:

A2. Every programme should aim to develop the student's ability to think, to grasp ideas and to communicate effectively. Adaptability, curiosity, self-confidence, independence of thought and the power to make critical judgements are personal qualities that should be given every encouragement to grow.

A3. Programmes must always be devised with full regard to modern industrial requirements and take account of any formal training which a student may be receiving. The student should be helped to achieve a worthwhile combination of knowledge and skills and these should be appropriate to his vocational needs.

How realistic are such aims and how feasible is it to translate them into effective action? Consideration of A2 raises at least two major issues.

Regarding the basis for their selection, the Training Services Agency discussion document *Technicians, A possible basis for a TSA Programme* succeeds, by adapting a United States Office of Information publication, in providing a list of "special abilities required of and activities performed by technicians". However the whole ethos of the document attests to the importance of identifying precisely the education and training needs of technicians really are.

If, on the other hand, one assumes that the council's thinking about attributes is reasonably sound, what justification can TEC provide for its apparent willingness subsequently to accept programmes which are in essence very little different from the knowledge-dominated syllabuses currently characteristic of so many FE courses?

While the emphasis within A3 on the need for all programmes to be appropriate to the vocational needs of students is surely justified, the achievement of such a bias is predominantly dependent on the extent to which "modern ... requirements" can be ... To date, there is very limited ingful research available to ... such information.

What of TEC's finances? ... sional funds allocated to the ... cil by the Department of Ed... and Science for 1975-76 were over £350,000. When salaries ... other administrative expenses ... cluding the travelling costs ... committee members, have ... met, how can there be ... money left over for curriculum ... velopment in the ... accepted sense of the term?

In the light of the ... undertaken it is not really ... ing that there is a growing ... cism both within education ... dustry of developments to ... particular there is concern ... two aspects: first the ... which change is being ... through before the ... groundwork has been carried ... and secondly the lack of ... about the eventual role ... local education authorities.

Although the council can ... take credit for the various ... which its activities are ... discussion about education ... grammes for middle ... must without further delay ... cally examine its achievements ... date.

In particular, it should ... whether it would not be best ... even at this late stage, to ... on a much narrower front ... hitherto planned.

A concentration on a ... number of selected ... would make it possible ... undertake the necessary ... work in partnership ... industry—local and ... the TSA in particular; to ... pilot studies and thus ... what is being attempted ... effectively to anticipate the ... implications in terms of ... (in this context the insertion ... ing requirements, are ... tant); and to attempt a ... costing exercise to identify ... direct and future costs ... ural regional level.

The author is senior lecturer in education at the University of Keele.

Are the public really against universities?

Some in Oxford did not like students—migrant, aloof and often arrogant.

It seems generally conceded in academia that the outlook for the universities is poor. As dons peer out into the world which seems suddenly to have become hostile they are tempted to think that hostility is general throughout the population.

I think such a view unduly pessimistic, and a backward glance may do something to keep it at bay.

There was in Oxford in the 1960s a feeling that town regarded gown with some hostility. Max Beloff, the Gladstone Professor of Government, remarked in 1969 that "the presence of the university has ever since the Middle Ages been regarded by some of the citizens as an excrescence; as though they did the university a favour by permitting it to be there".

Mr Geary Rowley, now Minister of State at the DES, was, in the early 1960s both a don and a member of the Oxford City Council. He thought that for the ordinary people of Oxford, and particularly for those in the eastern part of the city whom he represented, the traditions of the university "meant" nothing. He felt that the "physical presence of the university crowding the centre of the city with a migrant student population, aloof and often arrogant, meant a great deal . . . and they did not like it".

From conversations in the university I would judge that others, although not so outspoken, shared this general view. And the view was not unreasonable for there were points of conflict and open controversy. One of the sharpest of these points was the question of university representation on the City Council.

I was engaged in a study of town-gown relations when this controversy was at its height and took the opportunity provided by a survey in the city on this general theme to ask some questions on the particular topic of representation. Given the general pessimism about town-gown relations and what most people would regard nowadays as the anomaly of any sort of special representation the answers to our questions were surprising.

In the 1960s the university elected its own representatives to the Oxford City Council quite independently of the general franchise. The council had 68 members, 42 of these were councillors elected in the ordinary way from the seven wards of the city. These 42 elected 14 aldermen.

The university elected nine councillors and these nine elected a further three aldermen.

An attack was launched on university representation in 1963 and the subject was debated in the university, in the city council and in the press. No one seems to have defended the university in terms of any theory of democracy although its supporters suggested that the special system had provided some good councillors who might not have come forward if they had had to contest a seat in the ordinary way.

On the other side, university representation was seen at best as old-fashioned and anomalous. The fact that 54 heads and bursars were permitted to elect the same number of councillors as the 17,000 electors in Cowley was thought to be little short of an outrage likely to bring political passions to the boil and greatly inflaming opinion against the university.

The city council, however, when it came to debate the matter was not entirely of a mind, and it was decided to ask the university to reduce its representation from 12 to four. The university agreed to a reduction, but the parties were deadlocked because the university rejected the suggested four and insisted on eight.

At this point we interviewed 238 people living in the city, but not members of the university. We found that 53 per cent knew of the controversy about representation; 47 per cent told us they had never heard of it.

Generally opinion was ... of the university, even on ... like this in which ... would regard the university ... tion as difficult if not ... to defend.

In the town there was ... ence and the university ... without its critics, but ... the large majority of people ... ing it with great good humour, ... tolerance and in many cases ... approbation.

The widespread hostility ... some were persuaded existed ... not evident in this survey. ... that universities might ... fully remind themselves that ... opinion is not always ... who claim to speak on it ... say it is.

Politics and journalism ... constitutes a system ... separate from the rest of ... These systems generate their ... values, priorities, excitements, ... hibitions and silences and ... at best an imperfect reflection ... the whole society.

Journalists are expected to ... tain and excite us as well as ... And it can well be imagined ... a few politicians running ... committee room affairs ... and achieve levels of ... shared by the population as ...

They may well believe, ... that the great mass of ... share their views. ... association, together with ... of common politeness and ... sense explain how people ... and passionate views find ... views echoed back to them ... others.

But universities make a mistake in assuming that public opinion is accurately reflected in newspapers and in political speeches. Public opinion was never so rapturously supportive of universities as it have been imagined when the Robbins' report appeared, nor is as critical and hostile as we suppose today.

Peter Collins

The author is professor of ... studies at Newcastle University. The article is based on one published in "The University and Local Politics", Oxford Review of Education, Vol 2, No 1, 1976.

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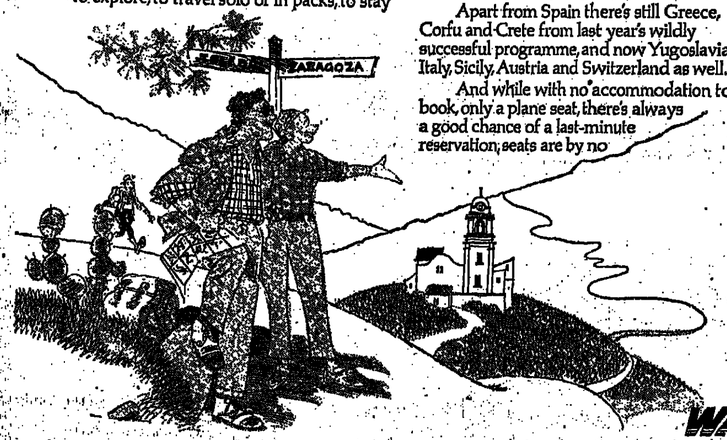
Luton/Gatwick	Austria/Switzerland	01-388 2390
Manchester	Majorca/Ibiza, Italy/Yugoslavia	061-833 0242
Manchester	All others	061-833 0262
Cardiff	Spain/Balearics	0222-21061
Bristol	Spain/Balearics/Corfu	0272-297744
Birmingham	Spain/Balearics	021-2368202
East Midlands	Spain/Balearics/Corfu	0533-51251
Glasgow	Spain/Balearics/Italy/Yugoslavia	041-221 7080
Newcastle	Spain/Balearics/Corfu	0632-25111



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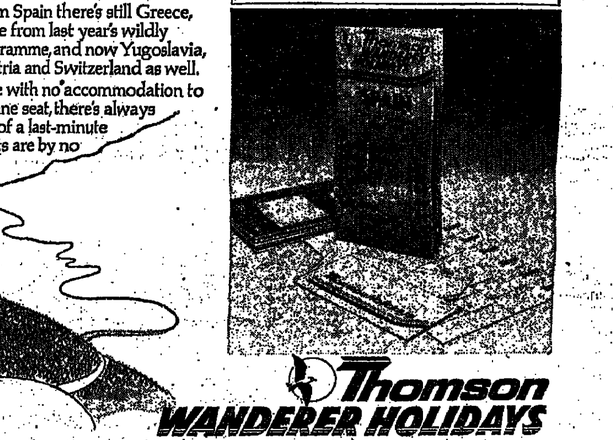

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Bankrupt New York looks for ways to reopen

The closure of the City University of New York (*THES*, June 4), one of the largest university systems in America, means that more than 270,000 students have had their final examinations and classes disrupted.

Graduation ceremonies for another 20,000 which were to have been held between June 3 and 15 have been postponed until the end of the month.

And some 18,000 full-time and part-time teachers have been sent home without pay either until the State's legislature approves an emergency aid package of $24m or until the new fiscal year begins on July 1.

The immediate cause of the shutdown was the decision of the city to cut the university budget by $55m after the university refused to begin charging tuition fees.

Delicate negotiations are now going on between the legislature and New York's Board of Higher Education, which controls the university. There are indications that no aid will be approved until free tuition is ended.

The university's chancellor, Dr Robert Kibbee, called the closing a "horror" but was hopeful that the university would reopen in time for the summer session.

The chancellor's action has caused consternation among students, staff and the general public, who see the closure of the prestigious university as a sign that the whole scheme of financial rescue for the hard-pressed city of New York may begin to fall apart. This is the first time that any institution within the city has been unable to pay its employees.

Within the university, however, tuition fees remain anathema. Many of the students are from families which cannot afford to pay tuition charges, and they have repeatedly expressed their opposition. Dr Kibbee himself is equally upset but said he could not envisage any way in which CUNY could operate next year without fees.

The shutdown has been a real possibility for many months now. Indeed, a four-week enforced holiday without pay was one of the proposals advanced by Dr Kibbee and approved by the Board of Higher Education earlier this year as a means of balancing the budget for the remainder of this academic session. However, it never went into effect.

Sudden closure now is bound to inflict lasting psychological damage. A number of CUNY's top professors and lecturers have already begun to seek jobs elsewhere. And the administration fears that the university's proud tradition of helping the city's poor gain a first-class education has now been brought to an irreversible end.

San Diego considers reform of first two years

One of California's largest universities is taking up a challenge that many people believe to be one of the most urgent now facing universities: the reform of the first two years of undergraduate education.

San Diego State University, with 32,000 students and primarily an undergraduate rather than research institution, has set up a special committee to examine the general education course.

Last month this committee sent all staff and students a draft document outlining the aims of the freshman and sophomore years, the criteria for individual courses, and how courses could achieve some thematic unity.

San Diego, along with many other universities, believes the first two years are now continuing to a standstill; the range of courses is so wide that choice has become difficult, some of the divisions seem arbitrary, and some courses, added at the height of student unrest, unnecessary; and some "core" subjects need greater emphasis.

One of the main reasons for this reexamination is that many of the students transferring to San Diego from community colleges, having already taken a number of general education courses, found that their credits were not accepted.

As the largest and most prestigious unit within the 19 campus State university system, San Diego's lead in examining which of its courses measure up to its new criteria will be closely watched by the other campuses and the community colleges.

The focus of general education, the university has now agreed, "is the individual as a human being and a citizen rather than as a physicist, historian or engineer". The programme should not concentrate on "covering" established bodies of subject matter, but on uncovering the complex interaction between past and present, human life and nature, technology and human values, the real and ideal, the individual and the mass. Courses should help students see the relationships as clearly as possible.

Last year the Senate approved three divisions of the programme: basic subjects—English composition, mathematics or logic and oral communication; foundations of learning—life and physical sciences, social sciences and the humanities, and what it termed the Human Experience, where all creative activities—to be defined in courses listed under a single theme.

San Diego is now asking all teachers to submit suggestions for courses and to answer questions of levels of competency expected, subject areas included, and how the courses differ from the way they would have been designed if offered as a major.

The university is not expecting any quick change. The Senate will consider final proposals in November. One of the difficulties is that teachers have entrenched interests in their own courses, and any attempt to "rationalise" or reduce the options could meet opposition.

But in many ways the exercise is designed to restore some of the fundamentals that were thrown out in the late sixties, and has thus won general acceptance from the staff.

Top science body launches worldwide 'freedom' call

Scientists all over the world are now being sent copies of a declaration drawn up in Washington by the National Academy of Sciences affirming the principles of freedom of inquiry and expression.

Scientists are being invited to sign a document dedicating themselves to the support of intellectual freedom, the free dissemination of ideas, freedom of travel and publication, freedom of speech and the worth and dignity of each human being. Signed declarations will be stored in the academy's headquarters.

The declaration was approved by academy members last month and is the result of considerable agitation for a more forthright stand on scientific freedom in the Soviet Union and other countries.

The academy operates a number of American scientific exchange agreements, but, except in the case of Andrei Sakharov, has never issued a public protest over the treatment of scientists and dissidents in the Soviet Union.

Instead, the academy has preferred private face-to-face representations which are possible because of the large number of international gatherings and contacts.

Copies of the declaration are being sent to every major scientific body and institute with which the academy has dealings. Already a number of copies of the statement printed in scientific journals have been signed and returned to Washington.

The academy is leaving it up to individual bodies to decide how to publicise or distribute the declaration. But it is not asking institutions to sign as a body for fear of causing argument and dissent within them.

In the case of the Soviet Union, copies will be sent to the major academies, and it is hoped that even if they are not distributed, scientists will get to hear of them individually.

Mr Murray Todd, executive director of the academy's commission on international relations, said members recognized that the declaration had no more than symbolic value. But they felt the time had come to make a public stand.

The academy has also approved guidelines for its new aggressive stand over what its members consider violations of human rights, recognizing that such violations

Dr Sakharov: symbol of dissi

"occur in many—perhaps all—countries".

The guidelines say the academy will investigate all individual cases brought to its attention, using information from the American scientific community, the American Government and international organizations such as Amnesty International.

It will continue to respond with influential individuals in countries, but will be careful to imply that the legal onus is the responsibility of any state the nation to which they belong.

Senate chairman emphasizes need for high standards

There is no getting away from the fact that universities which receive money from the Federal Government accept responsibilities in doing so, according to Senator Claiborne Pell, chairman of the Senate Education Subcommittee.

Congress had sole responsibility for formulating educational policy, but the executive—the President and his cabinet—did not always carry out the will of Congress, he told me. President Ford, for example, was reluctant to spend the money on education voted by Congress, and so Congressional policy had to be "fed to the purse".

The resulting proliferation of specific separate educational programmes was "very confusing". But the alternative was to turn all the money over to cities and towns —as President Ford suggested in his recent budget—and let them spend the money as they wished.

Senator Pell did not have faith that they would do so fairly, or according to the guidelines laid down by Congress. It would be simpler, but there was no guarantee that enough would be spent on the handicapped, the disadvantaged or the very poor. (who did not vote).

The senator is sponsor of a massive 464-page bill now going through Congress which he said should go a long way towards simplifying the many different programmes. Its main provisions deal with the reorganization of vocational education, student loans and the National Institute of Education, the Government's major educational research body.

Senator Pell, a Democrat, refuses to classify himself as either a "conservative" or "progressive" in education. He favours more Government money being spent on it, more student grants and more direct help to colleges and universities. But at the same time he is sympathetic to regrets many believe show an increasingly conservative atmosphere in American education today: more discipline, fewer open classes, a general tightening up.

He is disturbed by declining standards of literacy and falling scores in scholastic achievement tests. There should be greater emphasis on "quality education" so that a degree would mean more than it now does: graduates should be able to read comprehensibly and write grammatically.

Adult and continuing education was where the emphasis for the future should be. "I would like to see more emphasis on general education, recognizing that its purpose is not so much to relate you to the job but enhance your powers of enjoyment." Himself a political science graduate of Princeton (with a MA in history from Columbia), Senator Pell has a firm commitment to the liberal arts.

Since becoming chairman of the subcommittee in 1969 Senator Pell has moved cautiously, and some would say has not fought hard enough for education. But the introduction of Basic Student Grants in 1972, for which he takes much credit, is now recognized as a major step in American higher education.

Senator Pell: quality seeker.

$58m grants boost for 'developing' colleges

The Department of Health, Education and Welfare has awarded grants totalling $58m to 32 two-year and four-year colleges under a programme of selective aid to developing institutions.

The grants are to be used over a period of three to five years and are intended to help colleges achieve greater academic and financial stability.

Included in the total are funds for two consortia that will evaluate and review the progress of the recipient colleges. Central YMCA Community College in Illinois, which will coordinate the consortium of the two-year institutions, and Tuskegee Institute in Alabama which will be responsible for the four-year institutions.

The grants range from $1m to $3m and are highly competitive. Colleges getting the money are those best showing an ability to educate students for employment or professional schools, and a desire to revise existing curricula to accommodate educationally disadvantaged students.

All colleges applying must qualify as "developing". They must be accredited by an officially recognized agency and they must generally have been in operation for at least five years.

West Point cadets told to stay behi

The entire second year c cadets at West Point, the States military academy, ha ordered to remain behind th end of the academic year as and more cases of cheating courses are reported (*THES* 3). A special review panel ha began investigations.

Army lawyers now say a 250 people may have been in collaboration over a take examination earlier this year of the 48 originally accused produced long lists of inv volved in an attempt to ev violations of the "honour at the academy are so wide that the whole system needs hauling.

If all the cases are proven, ter of the entire year would be expelled—more than a whether time in the academy year history.

The panel began its wor week amid growing suspicio the American press that the extent of cheating and how at the academy has not yet revealed.

Meanwhile, a 24-hour guard been assigned to protect the Cadet Steven Verr, the centre second unrelated scandal. He was accused of lying to cov who he was found in tears ou the mess hall one day last mon and has since made detailed "cons of ill-treatment and ali harassment by fellow cadets at his case was being investigated

The problems could not come at a more difficult time the academy. Last week was Week, a time of reunion by gr ates of the academy, which to a climax with the graduation day ceremonies next month the academy will a new strain to its system when the first intake of women cade arrives.

Solzhenitsyn hits at 'compromising' research scholars

The Soviet Union "consider actively and quite aggressive serves "programmed lies" to all fairs and the public, Alexan Solzhenitsyn recently told a dinner sponsored by Stanford versity's Hoover Institution.

"Even events dear to Americ memory, such as Russian supp for the north in your civil war, the warm Russian-American friendship during the reign of Alexan II—all this was forgotten a crossed off, as if it had never been

In the hope of getting clear source material, some scholars a with cautious and discreet formu tions, so as not to anger their h in the USSR", he added. any compromise with truth, ho ever, the price is not worth paying

Cable TV for Mexico

Mexico has begun building a cable television education network. It is planned to link up with the cable systems which now operate in 60 urban centres of the country.

France

Foreign student numbers continue to increase

from George Morgan

NICE

The number of foreign students engaged in higher education in France continues to rise. In 1974/75 some 75,000 students enrolled for degree courses at university, an increase of 13.5 per cent over the preceding year. Taking into consideration the students registered at the *grandes écoles* or following specially designed language and civilization courses at universities the total number of foreign students in higher education was around 90,000.

These figures, published by the *Office National des Universités et Ecoles Francaises*, show that foreign students occupy an increasing percentage of French university places. Between 1973 and 1975 the proportion went up from 7.77 per cent to 9.91 per cent. This year there is an estimated 85,000 students from abroad out of a total university population of 811,000.

Forty-five per cent of the foreign students come from the former French colonies in Africa. Britain ranks twelfth with 1,705 students in 1974/75, just behind West Germany but well behind Greece and Spain which both supply over 2,000 students a year. Most British students (1,378) are enrolled in arts courses.

The most popular university among overseas students is by far Paris VIII (Vincennes) with nearly 7,000 foreigners, followed by Paris Sorbonne. According to the *Office National* foreign students obtain poorer results in first and second-cycle studies (first four years) than their French counterparts. Out of a general total of 8.43 per cent of foreign students in arts and humanities subjects only 4.2 per cent obtained the first cycle diploma, 5.1 per cent the *licence* and 6.9 per cent the *maitrise*.

Figures also show that results at this level are decidedly poorer in Paris. Although 45 per cent of students studying science are enrolled in Paris the number of successful graduates in the Paris science faculties was only 18 per cent for the *licence* and 25 per cent for the *maitrise*.

Success rates among research students, however, show a very different picture. Foreign students account for 32.3 per cent of third-cycle doctorates awarded in the arts and humanities and 15.5 per cent of *doctorats d'etat*. At this level researchers in Paris appear to have a greater chance of success than those studying in the provinces.

Government policy in recent years has been to encourage the influx of students from abroad for cultural and commercial reasons. In particular foreign students enjoy the same enrolment fees as French students (roughly £20 a year) are entitled to the same facilities including cheap meals, accommodation, travel and social security.

Efforts are now being made to allow more foreign students into the *grandes écoles*, where the percentage is estimated to be around 6 per cent.

Last year a system of pre-registration was introduced whereby prospective students from abroad were required to make applications to the universities of their choice before May 1. So far this system has not been used to reduce the number of students enrolling, although universities do theoretically have the right to refuse applications.

Australia

First institute for managers faces delay

from John Kirkaldy

SYDNEY

Although it is designed to improve the standard of Australian business management, the founding of the Australian Graduate School of Management (AGSM) has not been one of the best examples of forward planning. When the school opens for teaching for the first time next year, there is a strong possibility that the buildings designed for it will not be ready.

Mr Gordon Jackson, the newly-appointed director of AGSM, said that building funds will probably not be available until August. The school is suffering from the Government squeeze on all new university building which has been in operation for over a year.

Despite these difficulties, the school should make an important contribution to tertiary education in Australia. It will be the first management school in the country and will be attached to the University of New South Wales. It will be funded through the Universities Commission.

Three levels of courses will be offered initially: a residential course for middle and senior executives of up to 10 weeks, a Master's degree requiring two years' study and a doctorate aimed at high level teaching and research. Professor John Stringer, professor of management at the new school, also wants to incorporate some part-time courses for small businessmen.

A 14-member board has just been announced. The board includes four members from the University of NSW, including Professor Rupert Myers, the vice-chancellor.

As the board has no control over the building programme, its main concern at the moment is the recruitment of staff and course arrangements.

Italy

'Minorities' launch college plan

from Patricia Clough

ROME

Representatives of Italy's bigger linguistic minorities have agreed to found a "university of the minorities" with the aim of saving their languages and cultures from extinction.

Only the large German population in the Alto Adige (South Tyrol) and, to a lesser extent, the French speakers of the Val-d'Aosta have any official recognition of their languages.

The others, the Sards, whose dialect is regarded by many as a language in its own right, the Provencal groups in Piedmont, the German-speaking Cimbri and Romance-speaking Ladini in remote Alpine valleys, the Slovenes in the Eastern Marches and the Albanian groups in the south have become known as the *lingue tagliate* because of their unconscious rejection by and isolation from modern culture.

The decision to found a "university of the minorities" was made during a recent meeting of Sards, Slovenes and Val d'Aostans in Milan.

Although they call it a university it will take the form of post-graduate courses in Milan from October to May each year, and occasionally also in the homelands of each linguistic group.

Studies will centre on history,

Traditional South Tyroleans.

art, culture and traditions of the various groups and relative jurisprudence. The lecturers will be university professors, journalists, writers and other specialists in each particular culture.

The Slovenes are also calling for laws giving linguistic minorities legal status and protection, the creation of more Slovene-language schools in their area and a Slovene-language television programme.

India

Rich dominate tech schools

from A. S. Abraham

BOMBAY

A study of the 1975 joint entrance examination held by the five Indian Institutes of technology (IITs)—the most prestigious engineering institutions in the country—has shown that they are very much the preserve of the richer classes.

The study, made by the chairman of admissions of the Delhi IIT, covered nearly 30,000 candidates from all over India. The "typical successful candidate" was found to be 17 years old, belonging to a family of five, with a father who earned around £900 a year (the average national per capita income is about £40 or £45 a year). He came from a city and had been to a school where English was the medium of instruction.

Sixty-seven per cent of the successful candidates came from schools with English as the medium of instruction. Although Hindi-speaking candidates formed the largest single group of all candidates, nearly 40 per cent of the total, their success rate was only 3 per cent.

Council of Europe

Researchers need 'more job chances'

Universities and research institutes in most Western countries may lose a generation of teachers and researchers during the next 15 years unless steps are taken to create more higher education job opportunities for current and future postgraduates, according to two reports recently published by the Council of Europe.

Prepared for a meeting of the council's committee for higher education and research at Linköping, Sweden, the reports say a potential generation gap between the large number of staff recruited in the 1960s and those needed to replace them later has been created due to recent cutbacks in public spending recalling the universities' previous growth rate.

Of all European countries surveyed in the reports only Finland expects continued growth in staff due to the Government's aim to raise research expenditure from 1 per cent to 1.7 per cent of the gross national product within the next five years.

Apart from the effects on promotions and recruitment, the authors argue that the reduction in the availability of posts with tenure may affect mobility of scientific researchers between institutions and more especially between the universities and research institutes and industrial research laboratories.

Possible solutions to the impending crisis suggested in the reports include greater opportunities for leave of absence and academic exchange, strengthening the universities' links with commercial research, filling staff vacancies immediately and either lowering or making more flexible the retirement age.

The Ageing of the Research Population, *reports by Gerx Elstermann and Hans Skvie, Council of Europe, Strasbourg.*

Brazil

Graduate drive may suffer from lack of quality

from Fay Haussman

BRASILIA

Ministry of Education projections show that 40,600 new lecturers will be needed for undergraduate education by 1979. Part of the present cadre of university staff will have to upgrade their qualifications through master's and doctoral studies. Further, and aside from increasing labour market demands for top-notch professionals, there is a growing need for researchers in scientific centres.

The recently approved First National Postgraduate Education Plan will attempt to cope with these demands, so far as realistically possible. In the words of Dr Edson Machado, director of the Ministry's Department for University Affairs, the plan's three main goals are "to institutionalize postgraduate education, to raise its performance patterns and to channel and orient its growth".

The plan foresees 16,800 new masters and 1,400 doctors by 1979, and the granting of 1,400 additional degrees to students who at present pursue postgraduate studies abroad. Places for studies towards master's degrees will be expanded from 7,000 to 11,700 a year, and in doctoral studies from 500 to 1,200.

Funds set aside for the plan total Cr$10.3 billion (£548m). The 50 universities (25 federal, 10 state and municipal, 15 private) with postgraduate courses are thus, for the first time, assured of a regular flow of monies where up to now they had to be satisfied with intermittent grants intended for specific projects.

Professor Carlos Langoni, director of the Postgraduate School of Economics of the Getulio Vargas Foundation in Rio sees the infusion of these funds into postgraduate education as "a revolution of the Brazilian university structure" because it will enable the transformation of an "academic university into a full-time university with its own research organization".

Other educators fear the overexpansion of a basically weak structure. In its analysis of the state of Brazil's, admittedly very young, postgraduate education, the plan points towards the relative inefficiency of the courses for master's and doctoral studies. "The majority of candidates admitted does not even manage to complete the credits and, particularly in master's studies, only about 15 per cent complete the degree. Minimum periods of time to obtain the degrees have been about two-and-a-half years for masters, and an additional four years for doctors".

There is general concern over the shortage of qualified persons, both students and lecturers. Candidates for university admission have been found to be less and less able to speak, let alone write, correct Portuguese. But a campaign headed by São Paulo professors, to make a test in written Portuguese once more compulsory, nationwide, for admission to undergraduate courses has so far failed to change existing legislation.

It is thus not surprising that postgraduate education, too, should have its share of academic illiterates". Postgraduate students in Rio's Federal University and Pontifical Catholic University are reportedly having enormous difficulty in writing their theses. The students themselves admit that they have difficulties "in translating their ideas into words".

The critical lack of top-notch academics qualified to train new cadres is seen by most experts as the crux of the problem. At last year's meeting of the Brazilian Society for the Progress of Science the remedy suggested was to contract professors from abroad.

Brazil's most notable experience with foreign professors goes back to the creation of the University of São Paulo more than 40 years ago. Among the young professors brought over from Europe to start the university's Faculty of Philosophy, for example, were Claude Lévi-Strauss, Edgard Golbsch and Francisco Picolo who later became scientists of world renown.

They succeeded in training Brazil's first groups of researchers and professors and, contrary to the criticism voiced by their detractors, they concentrated their research on Brazilian questions.

The systematic hiring of foreigners to teach Brazilian postgraduate courses is not unnaturally politically unattractive, however, even as a temporary measure and thus has found no support at the Ministry of Education.

Sweden

Student union votes to finish compulsory membership

from Mike Duckenfield

STOCKHOLM

The investigation of a possible three-term system and the introduction of an intermediate qualification between the bachelor degree and a doctorate were among the demands made by the Swedish National Union of Students (SFS) at this year's annual conference.

Students also voted to accept the ending of compulsory student union membership as proposed by a recent government committee (*THES*, March 26), despite fears voiced by the union's president Annika Sandström that they might lose as many as two-thirds of their present 100,000 members.

However, delegates wanted to keep existing arrangements whereby the union receives 16 Skr(£2) from each student every term until an alternative scheme can be worked out to ensure the union's financial future.

Compulsory membership is expected to end with the introduction of the reformed higher education system at the beginning of July next year.

Arguments in favour of the three-term system, which the union want investigated by the Education Ministry, included increased opportunities to gain work experience by using the third term for practical work and a more efficient use of university and college resources by spreading teaching over a longer period.

Delegates felt that an intermediate qualification would help those who, after graduating and spending some time in work, needed to improve their subject knowledge without committing themselves to expensive and lengthy doctoral studies.

The conference also adopted a tough eight-point statement on the forthcoming reforms. The union wants to give students, teachers and other education personnel a majority on the six regional boards coordinating the future higher education system.

SFS also wants it to be possible for small professional colleges, such as those for social workers, to stay out of the new regional organizations if they fear being swamped by the larger institutions. Other points included the abandonment of restricted entries, postponing the reforms for at least a year and guarantees that minority specialist subjects will not suffer in the new vocationally-oriented division of courses.

Teheran in 1980

The next quinquennial general conference of the International Association of Universities is to be held in Teheran in 1980. No theme for the meeting has yet been fixed, The last IAU conference was in Moscow last August.

Sex law scrapped

The Norwegian Government's Bill on equality between the sexes (*THES*, October 10, 1975 and March 26) has been rejected by 48 votes to 37 in the Odelsting, the body responsible for the initial vetting of legislation in Parliament. It will now be reconsidered by the Government.

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After Scylla, Charybdis

In the past four years the universities, and higher education in general, have been tossed helplessly this way and that by the storms of economic chance and the winds of economic policy. Having barely escaped the Scylla of runaway inflation, they now face the equally grave threat from the Charybdis of massive public expenditure cuts.

In this summer of 1976 a brief calm—an opportunity to recover from the debilitating and occasionally demoralising experiences of the past and to reflect on the dangers of the future. The worst of the inflation is over: the worst of the public expenditure cuts are yet to come. The recurrent grant to the universities for the next year, although far from generous, is adequate—perhaps more than adequate if the rate of inflation continues to abate and the 4½ per cent pay limit is faithfully applied.

Yet this calm is ephemeral. The pressure on public expenditure, and so on higher education which is almost entirely dependent upon it, is apparently relentless. Last winter the public expenditure White Paper confirmed that the projected total for student numbers in 1981 had been reduced to 600,000—and that even that modest expansion should, in the Government's view, be achieved by the erosion of the staff/student ratio rather than by any significant increase in the number of academic staff. So at one blow were sacrificed the expansionary goals of progressives and the protective ideals of traditionalists.

Nor at a time when inflation is still significant and, indeed, is being nourished by the declining international value of sterling is this likely to be the limit of cuts in public expenditure. Already there are unconfirmed but persistent rumours that reductions of up to £2,000m are being planned in the darker recesses of Government. Certainly the PESC (Public Expenditure Survey Committee) cycle has begun again which will end in the publication of the next public expenditure White Paper in January 1977. Clearly higher education cannot be exempted from any new cuts that are being planned.

In fact, the danger is the opposite—that higher education will be obliged to accept more than its fair share of any reduction. Last week Mr. Peter Jay, economics editor of *The Times* (and also the son-in-law of the Prime Minister), suggested in his weekly column, apparently without much expectation of vigorous objection, that expenditure on higher and further education should be cut by 10 per cent, or £150m a year.

How should higher education behave in this chilly climate of public austerity? The first and most urgent requirement is that the leaders of higher education should form a realistic view of their present predicament. The universities must recognize what they cannot rely to the same extent as in the past on the prophylactic qualities of the University Grants Committee or expect such ready access to those private and privileged channels of communication to the heart of Government. Polytechnics and other colleges must recognize that Mr Crosland was not joking when he said last year that "the party's over" and that, for local authority expenditure, drinking up time is now almost complete.

More important, perhaps, all sectors of higher education should recognize the radical change in the way public expenditure is viewed by the Government since the Plowden report of 1961, and especially since the publication in 1969 of the first White Paper laying out the Government's spending plans for five years ahead. In many ways the PESC system is a great improvement. In the past concentration on individual departmental spending programmes made it difficult to see the wood for the trees.

Yet there is a danger, which has only perhaps become clear in the past 18 months, that under the PESC system it can be difficult to see the trees for the wood. Certainly the PESC forms seem to have encouraged rather stavistic attitudes to public expenditure. Elaborate macroeconomic — even macropolitical—theories are spun suggesting, for example, that if public expenditure absorbs more than 60 per cent of the gnp Britain will somehow become a corporate state.

It is in the interests of higher education to resist such empty theorizing, and in particular to resist the polarization of attitudes to public expenditure with the Left apparently considering all such expenditure equally beneficent and the Right regarding it as all equally malignant. No one wishes to see a return to the pre-Plowden position when individual items of public expenditure were considered almost in isolation from the whole. However, there is a case for more detailed scrutiny of the value of individual items than is encouraged by the PESC system with its overriding emphasis on global totals. There is the particular problem that the UGC is very much a pre-Plowden, pre-PESC institution.

Higher education expenditure could well emerge in a better light from such detailed scrutiny than official assessment of priorities which seems to have become standard fare in the new University of London Bill.

The university is prevented by the 1926 Act from changing its statutes, except within the limitations of that act. In 50 years the world has changed, and so has higher education. It would be astonishing if the old statutes gave the federal university the governmental structure and pattern that it needs. They do not. The university ought to have the power to change them, and it needs the Bill to give it that power.

As to what it will do with that power, all I can say is that the Senate finds, those who work there and (more important) those who attend meetings there, are not the malign conspiracy that Professor Griffith likes to imagine this they are—as they have proved on all occasions—chancellors and officers of the university over 25 years; they have all been honourable men, decent and utterly undespotic.

The Senate, which with the aid of its councils governs the university and is devising the new statutes, consists almost entirely of academics and heads of schools (mostly academics by origin), and of graduates of the university. The new Senate (if the new statutes go through) will have students, and a lot more academics, added to it. It will contain none of the faceless bureaucrats whom Professor Griffith detests. And academics are not easily hoodwinked.

Professor Griffith is very unreasonable too in his complaints over consultation and demands over consensus. London is a big and complicated university. Successive reports on these constitutional matters have been sent to each of its teachers and institutions with an invitation to comment. Not every comment or suggestion can be acted upon; there is *complete* agreement ever going to be possible—especially with Professor Griffith around. But London has made a tremendous, a model effort at consultation, and the compromise which has emerged is in my view a pretty satisfactory one.

Yours faithfully,
A. TATTERSALL,
Secretary,
University College London.

Mature students

from Mr W. J. Dey

Sir,—In your last issue (*THES*, June 4) a TUC policy document on the admission of mature students to universities was described. The document cites the University of London as admitting two unqualified adult students in 1971, when the Joint Matriculation Board admitted 45 in 1970 and Oxford 44 in 1971.

It may be of interest to your readers and to members of the TUC to know the latest figures for this university. In 1971 the Special Entrance Board, empowered "to consider applications from students over 25 years of age who are able to show either by publication or by other acceptable evidence of mature academic work that they have achieved competence in their chosen field of study sufficient to justify admission".

As the regulation was newly introduced late in the summer of 1971 the intake was limited to two in the following October because offers had already been made to other applicants, and some colleges were unable to consider others especially for courses which are extremely popular.

However, the position has changed in the intervening years. In 1974-75 the Special Entrance Board granted eligibility to 76 adult students under this regulation. All admission by the Imperial colleges. Applications for the current session show that this total will be exceeded in October, 1976.

Yours faithfully,
W. J. DEY,
Secretary,
University of London.

LETTERS TO THE EDITOR

Lord Crowther-Hunt and the UGC

from the chairman of the University Grants Committee

Sir,—In his article published on May 28 in *The THES* Lord Crowther-Hunt opined "the University Grants Committee is now in ways simply a branch of the Department of Education and Science", resting a major part of his justification for this statement on "the extraordinary fact that the UGC does not have its own independent staff under its own control".

The conclusion which he seems to infer from the latter statement, and one which I imagine most readers will draw, is that officials of the UGC must experience a conflict of loyalties between that to the committee and that to the department which, in Lord Crowther-Hunt's view, determines their career prospects and prejudices their service to the committee. Because the code of conduct of civil servants precludes their robuttel of this imputation I hope I may be allowed to state that it is as wrong as it is gross.

First, I and my fellow members of the UGC, many of whom have longer service than I, would assert categorically, as I did in my public evidence to the Commons Committee investigating decision-making in the DES, that we have no grounds whatsoever for doubting that each member of the staff is entirely loyal to the committee and its work. Second, on grounds of principle it is surprising that the argument is raised at all for it is in the nature of the case that the varied assignments of civil servants often require them to present relevant arguments generated by themselves or by committees and councils which they serve which run counter to existing patterns of thought in departments. Their efficacy in doing this, far from damaging their career prospects, in fact advances them.

Third, I would state that over very many years of experience on a wide variety of government committees, whether departmental or not, I have never had occasion to feel that officials assigned to these committees had any loyalty other than to the committee which they had been charged to serve.

Lord Crowther-Hunt also gives the impression that all UGC officials come from the DES and return there at the end of a short spell of duty with the UGC. This is not so. Some of the senior officials have never served in the DES, several have served in other departments at home and overseas (one in no fewer than five departments), yet another is on secondment from a university, and so on. A similar variety of destination obtains on leaving the UGC.

Finally, another substantial part of Lord Crowther-Hunt's argument rests on the way of working of the UGC and, in particular, on the presence at our discussions of senior officials from the DES, the Scottish Education Department and the Welsh Office and their access to UGC papers. The fact is that the UGC is the sole determinant of its *modus operandi* and has found it extremely valuable to invite assessors from other bodies in addition to those mentioned above. But we also have meetings and parts of meetings from which the assessors are excluded and equally we have papers which are seen and discussed only by the members of the UGC.

Doubtless university readers will detect analogies in what I have written with their own experience on university boards and committees.

Yours faithfully,
FREDERICK DAINTON,
Chairman,
University Grants Committee.

Federal freedom

from Mr A. Tattersall

Sir,—Professor Griffith (*THES*, May 28) exhibits the common human failing of wanting to believe his own fantasies, and the growing tendency to look for burglars under the bed.

I belong to a college which is keen (as he says) on the Saunders doctrine of more freedom within the federal framework, and which is quick to resist any encroachment on its freedom. Try as we can, we have not detected such encroachments in the new University of London Bill.

The university is prevented by the 1926 Act from changing its statutes, except within the limitations of that act. In 50 years the world has changed, and so has higher education. It would be astonishing if the old statutes gave the federal university the governmental structure and pattern that it needs. They do not. The university ought to have the power to change them, and it needs the Bill to give it that power.

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Professor Griffith is very unreasonable too in his complaints over consultation and demands over consensus. London is a big and complicated university. Successive reports on these constitutional matters have been sent to each of its teachers and institutions with an invitation to comment. Not every comment or suggestion can be acted upon; there is *complete* agreement ever going to be possible—especially with Professor Griffith around. But London has made a tremendous, a model effort at consultation, and the compromise which has emerged is in my view a pretty satisfactory one.

Yours faithfully,
A. TATTERSALL,
Secretary,
University College London.

AUT activities

from Mr Laurie Sapper

Sir,—May I pick up two points, direct or implied criticism of Association of University Teachers made by *The THES* in two recent issues.

Your editorial "Towards the Goals" (*THES*, May 21) rejects the point that you have made on before and which is based on a lack of understanding or knowledge of the work of the association. Put in more blunt language than your editorial, you say that we spend much of our energies on sectional issues and tend to ignore or fail over the longer view and the wider issues facing the universities.

Not so. Of course, struggles, disputes over salaries, low, bitter as they have been in the past two years, have inevitably hogged the limelight. But AUT not allowed this to deprive us of its work in connexion with the educational framework in which universities exist.

Starting in 1970 with our evidence on higher education and the universities set out in our Green Paper *Universities in the 1970s* (which devoted the whole of a special council meeting), we have followed up with a constant stream of material and activity over the years of the educational spectrum.

Space will not permit me to give a definitive list but can I mention our evidence to Select Committees on graduates, research, DES policy and decision-making; representations to successive governments on university finance; a campaign to popularize the research effort of the universities and to answer those who vilify our institutions; meetings with Parliamentary private education groups; representations on the James report; a massive campaign against the EEC's attempt to harmonize education policy. And you cannot complain that we have not publicized these matters.

The second point at issue is your statement in your report of council meeting where you call that we have not taken up the attitude on the system of cash limits itself. Yes we have. If you make a report, apart from making three or four proposals on how these limits can be modified, we take the view that there is nothing wrong with limits, provided that they are calculated on a proper baseline, that the forecast on inflation and on the size of a salary settlement are accurate and that provision is made for expansion that is expected of the universities by the government of the day.

So please, criticize the AUT as much as you like but not on fallacious assumptions that I am sure unintentional.

Yours sincerely,
LAURIE SAPPER,
General Secretary,
Association of University Teachers,
1 Pembridge House,
London W11.

Student teachers

from Mr K. A. Baird

Sir,—Your front page news item (*THES*, May 28) says that the Department of Education [illegible] the information in their possession in 1971 "which indicated that student teachers could be unemployed this year".

The implication of your statement is untrue and unfair to the civil servants concerned.

Of course, they knew how many children would be entering school and they were already born. What they could not foresee (any more than could the press or the rest of us) was the financial crisis which has caused the Government to refuse to reduce the size of classes in primary schools.

The difference between unemployment insurance and a teacher's starting salary is not great. What this small saving in public expenditure will cost us is primarily schools less efficient than they might have been, very many bitter young people at the beginning of their careers, and a reluctance among school leavers to train for a teaching which may well be withdrawn for a generation.

Yours faithfully,
K. A. BAIRD,
Colsterworth,
Lincolnshire.

more letters page 5

Machinery for science advice

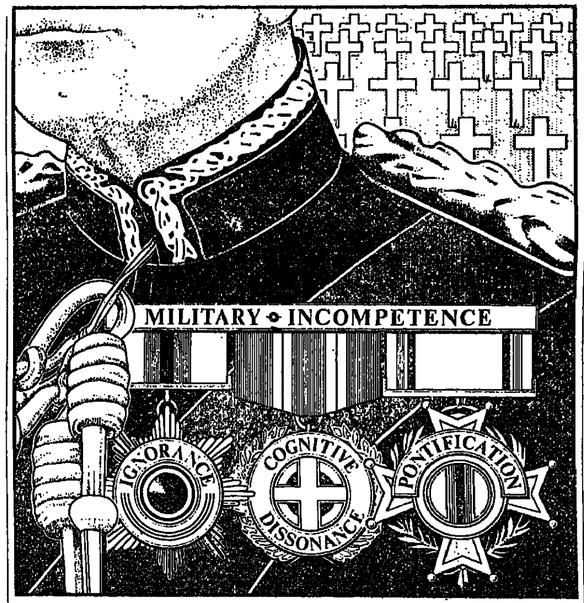
The Government's decision to establish an advisory council for applied research and development (ACARD) is obviously to some extent to smooth the ruffled feathers of the 1971-72 Commons Select Committee on Science and Technology.

In its report on the problems of civil science that committee made plain its anxieties over the absence of adequate machinery and criteria for decisions on national priorities for research and development, a strong independent voice in formulating policy decisions at a high level and of coordination between departmental research and development and the programmes of the research councils.

It proposed the establishment of a Minister for Research and Development with his own vote together with the setting up of a Council for Science and Technology. The council would advise on policy, assess the science and technological needs of the community, anticipate the need for research to deal with environmental hazards and commission its own studies.

These proposals were rejected by the Government which considered that the appointment of a Minister with the responsibilities of a Cabinet minister with powers of approval and financial control over research and development would cut across departmental lines of responsibility. The new arrangements, announced in a memorandum to the present Select Committee on Science and Technology, from Lord Shepherd, the Lord Privy Seal, correspond closely to the system proposed by the 1971 committee. The Advisory Board for the Research Councils and the new ACARD together effectively form a Council for Science and Technology. The appointment of a chief scientist to the Central Policy Review Staff will provide a strong independent voice for science and the new committee of departmental chief scientists and permanent secretaries should ensure reasonable coordination between departmental research, development, the programmes of the research councils and industry.

When generals obey the heart, not the head



Following reports of cheating at West Point, Norman F. Dixon looks at the academic record of military commanders, and concludes that errors of judgment have usually been due to emotional, rather than intellectual, failings

"I feel a fundamental crippling incuriousness about our officers. Too much body and too little head."

T. E. Lawrence

What grounds are there for the most popular explanation of military incompetence—stupidity?

There is the suggestion that the armed forces do not attract the best brains. A recent call-up survey in the United States put the status of army officers below that of professors, physicians, clergymen and school-teachers. As Morris Janowitz remarks in his book *The Professional Soldier*: "A liberal ideology . . . holds that since war is essentially destructive, the best minds are attracted to more positive endeavours."

According to Field-Marshal Montgomery this has been true for some time. Writing of 1787, he noted that the Army was the "normal career of the less bright younger sons". And of 1907 he wrote: ". . . in those days the Army did not attract the best brains in the country".

In training for generalship, it seems that intellectual ability has not always counted for very much. Even Haig, "the educated soldier", became Commander-in-Chief of the British Army in the First World War despite a poor academic record.

This dour lowland Scot, described by Duff Cooper as the dunce of the family, by Lloyd George as "utterly stupid", and by Briand as "*très du bois*", had the very greatest difficulty in passing the Sandhurst entrance examination, and then only with the help of a crammer whose knowledge of the academy's methods virtually guaranteed a scrape-through for even the dullest candidate.

It might well be asked why they bothered with a selection procedure which purported to test for intellectual ability when its end-purpose could be so easily circumvented. Major-General Fuller, according to Sir John Smyth, went to a crammer who had him learn by rote the answers to 12 likely questions.

Since 50 per cent of the predicted questions came up on the examination, Fuller managed the record mark of 497 out of 500! So unaccustomed were the Royal Military College examiners to any sort of intellectual effort that when one cadet memorized the set book on the Peninsular War he was accused of cheating.

That intellectual performance counted for little when it came to subsequent promotion in the Army might seem suggested by the Scholastic progress of Field Marshals Montgomery and Auchinleck, both of whom scraped into and passed out of Sandhurst with low marks.

Commenting on these phenomena, Smyth makes the point in his book *Sandhurst* that "it says quite a lot for the stiffness of the Sandhurst entrance examination, and for the high standard of competition within at the college, that both of these very capable officers should have passed both in and out of college with such a comparatively modest placing".

He may be right, though in the light of other evidence a more logical explanation would be that the academic requirements of the RMC are not wholly relevant to those actually required for competent generalship. Certainly, a brilliant performance in military schools is no guarantee of subsequent ability.

General Colley, whose succession of defeats culminated in 1881 in his own demise at Majuba Hill, had the distinction of passing out of staff college with the highest marks on record. The irrelevance of early scholarship to subsequent generalship also finds support in Napoleon and Wellington both of whom achieved very low grades at school. And in more recent times the early academic brilliance of Lieutenant-General Percival evidently availed him little at Singapore.

However, while military history is replete with examples of what has been dubbed stupidity, there are grounds for believing that such explanations merely reflect a preference for simple theories of what are really very complex phenomena. If the complex phenomenon is unpleasant and the simple explanation abusive, then so much the better.

The view taken here is that those intellectual shortcomings which *appear* to underlie military incompetence may have nothing whatever to do with intelligence, but usually result from the effect upon native ability of two emotional and related traditions. The first of these, originally founded in fact, is that fighting depends more upon muscle than brain; the second, that any show of education is not only bad form but likely to be positively incapacitating.

When writing of personalities who passed through Sandhurst, for example, Brigadier Smyth, VC, dwells chiefly upon their physical attributes. He says of Field-Marshal Alexander that he was a good long-distance runner; of a cadet who won the sword of honour, was "a fine athlete and captain of the rugger team", and an officer who was killed in 1915 "possessed a fine physique, and was conspicuous in every sport he took up".

In the light of these and similar comments the unintitated might be forgiven for thinking that the main purpose of the Royal Military College was to turn out athletes or male models rather than brains capable of mastering the intricacies of war.

The academic who produced the men whose incompetence has sometimes cost society dear cannot however be entirely held to blame for the ethos and values which they maintain. Equally culpable are those who encouraged them.

As recently as 1949, after a war which was nearly lost through the effect of the cerebral millstone of archaic tradition, Admiral of the Fleet the Earl of Cork and Orrery, having taken the salute at Dartmouth, urged the cadets to "absorb tradition"—rather as one might adjure a sufferer from rheumatism to absorb some ancient well-tried liniment. And for the Army there is the account of how one famous general, after inspecting the Royal Military Academy, confined himself to praising the drill rather than diluting on the importance of knowing the job of modern soldiering.

Whether or not intellectual shortcomings lie at the heart of much military incompetence, the fact remains that a deliberate cult of anti-intellectualism has characterized the armed services. While its origins relate, as we shall see, to much deeper reasons for military mishaps than mere ignorance or slowness of mind, the fact remains that its effects have not been helpful.

That generals and admirals between the wars denigrated progressive thinkers and poured scorn on men who wrote books which challenged existing practices must surely have tended to stifle any exercise of the intellect by those who wanted to get on, and deterred the gifted from ever seeking a military career. As Robert McNamara once remarked: "Brains are like hearts, they go where they're appreciated."

Even as late as the Second World War the baneful effects of anti-intellectualism were taking a toll of much-needed brainpower. A classic example is that of Major-General Dorman-Smith. This outspoken but exceptionally gifted officer whose talents were appreciated (and used) by such unequivocally great generals as Wavell, Auchinleck and O'Connor created much resentment of his intellectual abilities in the military establishment that when he was relieved of his post as Deputy Chief of the Imperial General Staff, Cairo after the first battle of Alamein, his fall was final.

The saddest feature of anti-intellectualism is that it often reflects an actual suppression of intellectual activity rather than any lack of ability. This is suggested by the rapidity with which so many military men rush into print as soon as they have retired. Evidently there was something waiting to get out. Unfortunately, as Liddell Hart points out, a lifetime of having to curb the expression of original thought culminates so often in there being nothing left to express.

Recent research on the relationship between mental activity and cerebral blood-flow adds point to the old belief that the brain, like muscle, atrophies from prolonged disuse. But perhaps *this* touches upon the real cause of military incompetence—age? Since traditionally promotion has depended upon seniority, commanders, generals and above have tended to be old, and since thinking, memory, intelligence and the special senses all deteriorate with age, then maybe bad generals are just old generals?

Certainly it can be said that age will intensify most defects of the mind, and over the years the quality of generals has seemed not unrelated to retiring age. At no time was this more in evidence than during the Crimean War and then again in the 1930s.

But notwithstanding such considerations, age is far from being a complete explanation of military incompetence, for there have been plenty of able old generals and some remarkably inept young ones. As Vegtz has noted: "Generals of eighty, generals who were sick of body and even in mind, have won important victories."

Moreover, the very complex nature of military incompetence defies any explanation as simple as that of senility. Indeed, there are grounds for regarding the latter factor as a symptom rather than a cause. But let us look at another aspect of what appears to be intellectual incompetence—the urge to pontificate.

The relation between the roles of ignorance and pontification in military incompetence is not entirely simple. First, in accordance with the principle that nature abhors a vacuum, ignorance tends to evoke pontification in those who wish to conceal their lack of knowledge, or for whom ignorance of the facts means that they feel free to express strongly held beliefs of a contrary nature.

For harmless enough examples of the first of these two classes of pontification there is the anecdote of the Dartmouth cadet who, when he asked why p was 22/7, was told by his monitor: "It is not for us to question the wisdom of the Admiralty."

Rather more serious are these pontifications which aim to make nasty facts go away by the magical process of emitting noises in the opposite direction. For example Field Marshal Montgomery-Massingberd, Chief of the Imperial General Staff from 1926 to 1933: "There are certain critics in the press who say we should organize the Army again for a war in Europe . . . The Army is not likely to be used for a war in Europe for many years to come."

In a calling where the accuracy of a communication may be a matter of life or death, the predisposition to pontificate is a dangerous liability. Unfortunately such a predisposition will be strongest in those like headmasters, judges, prison governors and senior military commanders who for too long have been in a position to lord it over their fellow men.

Unfortunately, too, such a predisposition will also be strongest in authoritarian organizations where the preservation of apparent omniscience by those above may be deemed of more importance than the truth. According to research by Chaubey, fear of failure increases after middle age.

But the important thing about pontification is that though an intellectual exercise its origins are emotional.

Closely allied to pontification and no less hazardous is "cognitive dissonance". This uncomfortable mental state arises when a person possesses knowledge or beliefs which conflict with a decision he has made.

Since it was first propounded by Festinger in 1957, Dissonance Theory has given rise to a large number of empirical studies. Though the precise nature of the underlying psychological processes is far from clear, there are certain conclusions which could have serious implications for military decision-making.

They may be summarized by saying that: "Once the decision has been made and the person is committed to a given course of action, the psychological situation changes decisively. There is less emphasis on objectivity and there is more partiality and bias in the way in which the person views and evaluates the alternatives." (L. Festinger, *Conflict, Decision and Dissonance.*)

Since the extent of dissonance experienced is a function of the importance of the decision made, it is likely that many military decisions create fairly severe forms of mental disquiet. But a military commander cannot afford to reduce dissonance when this involves closing his mind to or "reinterpreting" unpalatable information.

The dire consequences that might follow such an attempt were only too evident after the Cambrai offensive and again during Townshend's advance on Ctesiphon during the Mesopotamia campaign of 1915. In both instances the ostrich-like behaviour of senior officers cost the Army dear. The same may be said of the Ardennes counter-attack in 1944 and of Montgomery's failure, in the light of subsequent intelligence reports, to think twice about his decision to capture the bridge at Arnhem.

More recent research on cognitive dissonance has emphasized another variable of some consequence for military behaviour: the degree of justification for the initial decision. Experiments by Zimbardo and others have shown that the less justified a decision, the greater will be the dissonance and therefore the more vigorous its resolution.

In short, an inability to admit one has been in the wrong will be greater the more wrong one has been, and the more wrong one has been the more bizarre will be subsequent attempts to justify the unjustifiable.

We can see now the relationship between pontification and cognitive dissonance. Pontification is one of the ways in which people try to resolve their dissonance. By loudly asserting what is consistent with some decision they have made and ignoring what is contrary they can reduce their dissonance. Clearly this particular concatenation of intellectual processes may prove very hazardous in a military context.

Since decision-making is, by definition, a cognitive process then obviously the oldest theory is in one sense a truism, but it by no means follows that the simple hypothesis of low intelligence fits the bill. On the contrary, by looking further into the nature of decision-processes we are compelled to entertain another rather different possibility; namely, that the apparent intellectual failings of some military commanders are due not to lack of intelligence but to their feelings.

Cognitive dissonance, pontification, denial, risk-taking and anti-intellectualism are all, in reality, more concerned with emotion than with intelligence. The susceptibility to cognitive dissonance, the tendency to pontificate and the inability to adjust the riskiness of decisions to the real situation are a product of such neurotic disabilities as extreme anxiety under stress, low self-esteem, nervousness, the need for approval and general defensiveness. These, it seems, over and above his level of intelligence, are the factors which interfere with what a man decides to do in a given situation.

The author is reader in psychology at University College, London. The article is taken from On the Psychology of Military Incompetence, to be published on June 17 by Jonathan Cape at £6.95.

NOTICE BOARD

Chairs

Mr N. Horton Smith, reader in German literature and acting head of department at the University of Nottingham, has been promoted to the chair of German at the university.

Dr R. D. Chambers, reader in organic chemistry, University of Durham, has been promoted to the chair of chemistry at the university.

Mr H. P. Williams, lecturer in operational research at the University of Sussex, has been appointed to the newly founded chair of management science at the University of Edinburgh.

Dr G. P. Blair, reader in mechanical engineering, University of Belfast, has been appointed to the second chair of mechanical engineering at the university.

Dr D. Molyneux, lecturer in the department of parasitology, University of Liverpool, has been appointed to a chair in biology at the University of Salford.

Appointments

Universities

Belfast

Lecturers: J. H. Fairleigh (social work); W. Monteith (electrical and electronic engineering); D. E. Scars (architecture); K. P. Wainwright (inorganic chemistry). Senior library assistant: M. D. McKeown.

Durham

Pro-vice-chancellor and sub-warden: Professor W. K. R. Musgrave (reelected). Lecturers: C. J. R. Gullick (anthropology); A. C. Damnall (economics); A. Unsworth (engineering science); S. E. Marsh (law); P. H. Kneen (politics); R. Manning (zoology); R. H. Roberts, J. F. McHugh (theology). Staff tutor: C. B. Knights (English studies). Tutor: M. Sawbridge (community and youth work). Reader: Dr A. D. Martin (physics).

Liverpool

Promotions to reader: R. J. Abraham, D. Bethell, J. S. E. Holker (organic chemistry); R. Chester (oceanography). Promotions to senior lecturer: A. R. Millard (oriental studies); D. S. Jones (biochemistry); D. A. Thurman (botany); T. L. Gilchrist (organic chemistry); J. A. Bishop (genetics); R. G. Hartnoll (marine biology); G. A. Parker (zoology); R. C. Connolly (anatomy; A. G. Cudworth (medicine); P. H. Smith (pathology); J. T. M. Wright (bio-engineering and medical physics); R. J. Cope, A. B. Templeman (civil engineering); J. Lucas (electrical engineering and electronics); W. J. Sutcliffe (mechanical engineering); J. R. Walton (veterinary preventive medicine); I. D. Aitken (avian medicine); B. L. Anderson (economic history); A. D. M. Davies (psychology).

Colleges

Southlands College

Principal: D. Milbank.

Vauxhall College of Building

Principal: B. Smith, at present vice-principal at Waltham Forest College, North London.

General

Inner London Education Authority:— Chairman: Mrs. A. Grieves, formerly vice-chairman of the ILEA. Vice-chairman: Mrs L. Campbell, chairman of ILEA's advisory section on special education.

Technician Education Council:— Chairman: Mr N. Raine (part-time) governor of Lanchester Polytechnic.

Recent publications

Teacher Policies (published by the OECD, available from HMSO bookshops, £2.70). The report examines the changing role of the teacher and its implications in terms of training, status and complementary resources.

A Guide to the Identification of Training Needs, by Tom Boydell (published by BACIE, 16 Park Crescent, London W1; £1.20 members; £2.40 non-members). This revised edition includes a new chapter on approaches to training needs which reflects how the author's recent experiences have developed the approach he originally expounded. Examples, case studies, graphs and algorithms illustrate the text throughout.

Forthcoming events

The second British conference on the teaching of vibration and noise will be held at the Sheffield City Polytechnic from July 5-7. It will enable teachers and lecturers to discuss their experiences and present novel ideas in the teaching of vibration, noise and acoustics. Fee: £48; non-residential £38. Details: P. B. Round, Industrial Liaison Centre, Sheffield City Polytechnic.

* * *

The Mini-computer Users in Secondary Education will be holding their annual working weekend from July 2-4 at Bretton Hall College of Education, West Bretton, Near Wakefield, West Yorkshire. Papers on computing and statistics, Motorola Micro Systems will be discussed. Details: H. C. Williams, Secretary, MUSE, Trent Polytechnic, Clifton, Nottingham.

* * *

In and about Landscape Painting, a residential week to be held at Loring Hall, North Cray, Sidcup, Kent, from July 5-10. It aims to encourage and help students in their practice through supervised teaching of works by landscape artists within the European tradition. Fee: £35. Details: Room 204 (Painting); School of Adult and Social Studies, Goldsmiths' College, Lewisham Way, London SE14 6NW.

* * *

The Role of NDT in Quality Control, a conference and exhibition, will be held at Loughborough University of Technology, Leicestershire, from July 14-15. It will examine the techniques available and the criteria upon which the choice of method are based, and will consist of lectures and discussions with opportunities to visit the exhibition. Fee: £12; non members £20. Details: Meetings Secretary, The Institution of Metallurgists, Northway House, Whetstone, London N20 9LW.

* * *

The annual conference of Principals and Wardens of Halls of Residence in the United Kingdom will be held from July 13-15 at the University of East Anglia, Norwich. Wardens who are due to take up appointments within one year will be eligible to attend, enabling them to develop understanding of their pastoral and administrative role. Details: Mr C. E. Knight, University of East Anglia, Norwich NOR 88C.

* * *

The first British conference on the teaching of correlation and spectral techniques in higher education will be held at Leeds Polytechnic from July 13-14. Approximately 20 papers covering many aspects of these techniques will be presented by representatives of universities, polytechnic and technical institutions. Details: Dr E. W. Reed, department of mechanical and production engineering, Leeds Polytechnic, Calverley Street, Leeds LS1 3HE.

* * *

A conference organized by the Institute of Mathematics on the mathematics of hydrology and water resources will be held from July 5 to 8 at the University of Lancaster. It is directed mainly at those working in hydrology, civil engineering meteorology and mathe... Fee: £50, £65 non-members, ... from the Institute of Mathe... Maitland House, Warrior Sq..., Southend-on-Sea, Essex.

* * *

A seminar entitled "Marketing: Survival, Growth and Profit: A ...tice-centred Approach", org... jointly by the School of Manage... at Leicester Polytechnic and Prof. Donald Kanter, University of South... California will be held at the Ro... Inn, Leicester, from June 23 to ... Fee: £60. Details: Mrs M. Tom... Administrative Assistant, School... Management, Leicester Polytech..., PO Box 143, Leicester.

* * *

"Keller Plan Workshop" is to be held at the University of Nott... from July 5 to 7. It is one of a s... which have been held in various ...sities in the UK for teachers ... in study courses like the Keller P... an alternative to traditional ... methods. Fee: £30. Details: ... Bridget Hogan, Institute for E...tional Technology, University of ...rey, Guildford.

* * *

The 17th annual summer school ... health physics will be held at Impe... College, Exhibition Road, London SW... from June 21-July 2. Topics will i...clude basic physics, biology, ... biology and genetics. Lecturers ... drawn from senior staffs of Gov...ment departments, universities, ... and the UKAEA. Fee: £99. ... Dr H. D. Evans, Department of ...cal Engineering, Imperial Co... Science and Technology.

Grants

Universities

Aberdeen

History—£5,349 from the SSRC for a demographic study of the city of Valletta in Malta, under the direction of Ms A. Williams.

East Anglia

Development studies—£3,609 from the SSRC for a study of the Agrarian reform and plantation agriculture; sugar in Peru; under the direction of Mr C. D. Scott.

Applied research in education—£10,936 from the SSRC for a study into the problems in the design and methodology of research in curriculum and teaching under the direction of Mr L. A. Stenhouse.

Glasgow

Institute of Latin-American studies—£16,056 from the SSRC for research into the state, the armed forces and policy formation in Brazil under the direction of Mr P. Flynn and Ms R. Dreifuss.

Veterinary pathology—£15,619 from the Cancer Research Campaign for studies on the epidemiology of leukaemia and vaccination against the disease.

Biochemistry—£24,511 from the Cancer Research Campaign for biochemical investigations into the origins of cancer; £7,875 from the Cancer Research Campaign for a project on the influence of steroid hormones on growth ... and abnormal human breast tiss...

St Mary's Hospital

Surgical Unit—£14,415 from the ... Trust for studies in gastro... ocrinology and sleep; £10,... the MRC and the department of ...logy, St Mary's Hospital Medical ... for studies in gastric physiology.

Noticeboard is compiled by Myrna Monsurat and Patricia Santinelli

Open University programmes June 12 to 18

Saturday June 12

BBC 2

7.40 Mathematics Foundation Course: Differentiation — An Algebraic Approach (M100; prog 25).
8.05 Arts Foundation Course: Religious Responses (A100; prog 20).
8.30 Topics in Pure Mathematics: Ideals and Quotient Rings (M204; prog 18).
8.55• The Earth's Physical Resources: Concrete (S266; prog 9).
9.20 People and Organizations: Army (DT352; prog 8).
9.45• Ecology: A Case Study: Tawny Owls (S323; prog 6).
10.10 Curriculum Design and Development: A Policeman's Lot (E203; prog 9).
10.35 Linear Mathematics: Linear Programming—Theory (M201; prog 18).
11.00 Urban Education: The Community Spirit (E351; prog 6).
11.25 War and Society: The Social Impact of World War 2 (A301; prog 9).
11.50 Geology: Some Aspects of Limestone Deposition (S23; prog 9).
12.10 Comparative Government and Politics: The Politics of Revolt; Poland: December 1970—January 1971 (D231; prog 8).
12.40 Telecommunication Systems: Telephone Switching (2) (T321; prog 9).
13.05 The Nineteenth-Century Novel and its Legacy: Hardy and "Jude the Obscure" (A302; prog 9).
13.30 Comparative Physiology: Hormones and Homeostasis: Blood Sugar and Blood Calcium (S22; prog 8).
13.55 Earth Science Topics and Methods: Microfossils and their Uses (S333; prog 4).
14.20• The Digital Computer: Using OPUS 2 (TM221; prog 6).

RADIO 3 (VHF)

6.00 Patterns of Inequality: Eastern Europe: Housing (D302; prog 16).
6.20 Urban Development: Ethnic and Class Residential Patterns (DT201; prog 16).
6.40 Management in Education: The Educators Part 2—Operation Spearhead (E321; prog 6).
7.00 Thought and Reality: Central Themes in Wittgenstein's Philosophy: Two Wittgensteins or One? (A102; prog 9).
7.20 Elementary Mathematics for Science and Technology: Optimization (MST281; prog 8).
7.40 International Politics and Foreign Policy: Power and Policy (D332; prog 11).

RADIO 4 (VHF) Excluding north Scotland and parts of Wales

9.05 Open Forum.
9.25 Twentieth-Century Poetry: F. R. Leavis and New Bearings in English Poetry (A306; prog 9).
9.45 History of Architecture and Design 1890-1939: Villa Savoye: Preliminary Drawings (A305; prog 17).
10.05 Mathematics Foundation Course: Revision (M100; prog 25).
10.30 Arts Foundation Course: The Nature of Religious Language: Feedback (A100; prog 20).
10.55 Technology Foundation Course: Problems with Plastics (T100; prog 22).
11.15 Making Sense of Society: Work in Capitalist Society (D101; prog 18).
11.35 Science Foundation Course: Controls, Brains and Computers (S100; prog 18).
14.00 Microeconomics: Linear Programming and Planning in the USSR (D222; prog 11).
14.20 Science and Belief: From Copernicus to Darwin: The Music of Natural Theology (AMST283; prog 6).
14.40 The Sociological Perspective: The Sociology of Race Relations (D283; prog 9).
15.00 Renaissance and Reformation: English Consort Music (A201; prog 18).
15.20 The Use of Libraries—4.
15.40 Decision Making in Britain: Models of Decision Making in Health (D203; prog 23).
16.00 Curriculum Design and Development: Approaches to Teacher Education (E203; prog 13).
16.20 People and Work: The Profession of Medicine (DE351; prog 10).
16.40 Reading Development: Responsive Reading (PE261; prog 5).

RADIO 3 (VHF) Replacement programmes for north Scotland and parts of Wales

24.00• Renaissance and Reformation: English Consort Music (A201; prog 18).
00.20• Science and Belief: From Copernicus to Darwin: The Music of Natural Theology (AMST283; prog 6).
00.40• Microeconomics: Linear Programming and Planning in the USSR (D222; prog 11).

Sunday June 13

BBC 2

7.40 Technology Foundation Course: Composite Materials (T100; prog 23).
8.05 Making Sense of Society: Airline Pilot (D101; prog 16).
8.30 Science Foundation Course: Cells and Organisms (S100; prog 18).
8.55 Systems Behaviour: Telecommunications (T241; prog 9).
9.20 Complex Analysis: The Maximum Principle and Cauchy's Theorem for Simply Connected Regions (M332; prog 8).
9.45 Principles of Chemical Processes: Chemical Equilibrium (ST294; prog 9).
10.10 Open Forum.
10.35 Social Psychology: Man's Experience of the World (D305; prog 9).
11.00 Instrumentation: Fourier Analysis and Transducer Response (T291; prog 8).
11.25 History of Mathematics: Algebra of the Unknown (AM289; prog 6).
11.50 Technology for Teachers: Electronics (PET271; prog 7).
12.15 An Introduction to Psychology: Two Forms of Behaviour Therapy (DS261; prog 6).
12.40• Earth Science Topics and Methods: Microfossils and their Uses (S333; prog 4).
13.05 Urban Development: Chicago: Urban Life-Styles 1: The Inner City (DT201; prog 9).
13.30 Elementary Mathematics for Science and Technology: Understanding Relations (MST281; prog 9).

RADIO 3 (VHF)

6.20 The Digital Computer: Mock TMA—No 3 (TM221; prog 9).
6.40 Statistical Sources: Measuring the Success of an Incomes Policy (D291; prog 11).
7.00 Geology: Looking at Limestones (S23; prog 3).
7.20• International Politics and Foreign Policy: Power and Policy (D332; prog 11).
7.40 Industrial Relations: NHS (P881; prog 2).

RADIO 4 (VHF)

9.10 Public Administration: Experience with PPBS in the USA (D331; prog 14).
9.30 Historical Data and the Social Sciences: Memory and History (D301; prog 6).
9.50 Systems Performance: Human Factors and Systems Failures: Phasing in of High Technology Systems (TD 342; prog 4).
10.10 Personality and Learning (E201; prog 18).

RADIO 3 (VHF)

24.00• Renaissance and Reformation: English Consort Music (A201; prog 18).
00.20• Twentieth-Century Poetry: F. R. Leavis and New Bearings in English Poetry (A306; prog 9).
00.40• History of Architecture and Design 1890-1939: Villa Savoye: Preliminary Drawings (A305; prog 17).

Monday June 14

BBC 1

7.05 Genetics: The Return of the Fly (S299; prog 8).
7.30 Structure, Bonding and the Periodic Law: Elements of the Lithium Row (S25; prog 9).

BBC 2

6.40• Instrumentation: Fourier Analysis and Transducer Response (T291; prog 8).
7.05• Urban Education: The Community Spirit (E351; prog 6).
7.30• Systems Behaviour: Telecommunications (T241; prog 9).
17.00• Technology for Teachers: Electronics (PET271; prog 7).
17.25• Geology: Some Aspects of Limestone Deposition (S23; prog 9).
17.50 Statistics: An Interdisciplinary Approach: Sampling (MDT241; prog 6).
18.15• Mathematics Foundation Course: "On the Surface" (M100; prog 15).
18.40• Technology Foundation Course: Composite Materials (T100; prog 23).

RADIO 3 (VHF)

6.00• Decision Making in Britain: Models of Decision Making in Health (D203; prog 23).
6.20• Microeconomics: Linear Programming and Planning in the USSR (D222; prog 11).
6.40• The Sociological Perspective: The Sociology of Race Relations (D283; prog 9).
17.45 Education, Economy and Politics: Two Ways to Work (E352; prog 5).
18.05 Problems of Philosophy: The Universal in Perception (A303; prog 7).
18.25 The Development of Instruments and their Music: The Achievement of the Classical Symphony (A304; prog 9).
18.45• Management in Education: The Educators Part 2—Operation Spearhead (E321; prog 6).
19.10• Making Sense of Society: Work in Capitalist Society (D101; prog 18).

Replacement programmes for north Scotland and parts of Wales

24.00• History of Architecture and Design 1890-1939: Villa Savoye: Preliminary Drawings (A305; prog 17).
00.20• Arts Foundation Course: The Nature of Religious Language (A100; prog 20).
00.45• Open Forum.

Tuesday June 15

BBC 1

7.05 Mechanics and Applied Calculus: Equilibrium and Vibrations (MST282; prog 9).
7.30• Telecommunication Systems: Telephone Switching (2) (T321; prog 9).

BBC 2

6.40• Social Psychology: Man's Experience of the World (D305; prog 9).
7.05 Management in Education: OD2—I Cannot Negotiate (E321; prog 4).
7.30• Complex Analysis: The Maximum Principle and Cauchy's Theorem for Simply Connected Regions (M332; prog 8).
17.00• History of Mathematics: Algebra of the Unknown (AM289; prog 6).
17.25• People and Organizations: Army (DT352; prog 8).
17.50 The Age of Revolutions: Moral Conflict (A202; prog 9).
18.15• Genetics: The Return of the Fly (S299; prog 8).
18.40• Science Foundation Course: Cells and Organisms (S100; prog 18).
19.05• Curriculum Design and Development: A Policeman's Lot (E203; prog 9).

RADIO 3 (VHF)

6.20• Science and Belief: From Copernicus to Darwin: The Music of Natural Theology (AMST283; prog 6).
6.40 Second Level Biology: Hormones and Homeostasis (S2-; prog 7).
17.40• Geology: Looking at Limestones (S23; prog 3).
18.05• Thought and Reality: Central Themes in Wittgenstein's Philosophy: Two Wittgensteins or One? (A102; prog 9).
18.25• Patterns of Inequality: Eastern Europe: Housing (D302; prog 16).
18.45 The Early Roman Empire and the Rise of Christianity: Classicism and Concrete (A291; prog 9).
19.05• Arts Foundation Course: The Nature of Religious Language: Feedback (A100; prog 20).

Replacement programmes for north Scotland and parts of Wales

24.00• Science Foundation Course: Controls, Brains and Computers (S100; prog 18).
00.25• Mathematics Foundation Course: Revision (M100; prog 25).
7.05 Electromagnetics and Electronics: Power Supplies (TS282; prog 10).
7.30 Ecology: Coypu (S323; prog 1.5).

Wednesday June 16

BBC 2

6.40• War and Society: The Social Impact of World War 2 (A301; prog 9).
7.05• An Introduction to Psychology: Two Forms of Behaviour Therapy (DS261; prog 6).
7.30 History of Architecture and Design 1890-1939: English Houses of the 1930s (A305; prog 10).
17.00• Open Forum.
17.25 Elementary Mathematics for Science and Technology: Understanding Relations (MST281; prog 9).
17.50• Mechanics and Applied Calculus: Equilibrium and Vibrations (MST282; prog 9).
18.15 The Revolutions of 1848: Face of Germany (A321; prog 6).
18.40• Arts Foundation Course: Religious Responses (A100; prog 20).

RADIO 3 (VHF)

6.00• Reading Development: Responsive Reading (PE261; prog 5).
6.20• Education, Economy and Politics: Two Ways to Work (E352; prog 5).
6.40• People and Work: The Profession of Medicine (DE351; prog 10).
17.45 The Age of Revolutions: Kant: Freedom, Reason and Desire (A202; prog 18).
18.05 Urban Development: Ethnic and Class Residential Patterns (DT201; prog 16).
18.25 New Trends in Geography: The Nature of Social Geography (D281; prog 9).
18.45 Principles of Chemical Processes: Putting Chemistry to Work (ST294; prog 3).
19.05• Mathematics Foundation Course: Revision (M100; prog 15).

Replacement programmes for north Scotland and parts of Wales

24.00• The Use of Libraries—3.
00.20• The Sociological Perspective: The Sociology of Race Relations (D283; prog 9).
00.40• Curriculum Design and Development: Approaches to Teacher Education (E203; prog 13).
7.05• Management in Education: OD2—I Cannot Negotiate (E321; prog 4).
7.30• Urban Development: Chicago: Urban Life-Styles 1: The Inner City (DT201; prog 9).

Thursday June 17

BBC 2

6.40• Comparative Government and Politics: The Politics of Revolt, Poland: December 1970-January 1971 (D231; prog 8).
7.05• Linear Mathematics: Linear Programming—Theory (M201; prog 18).
7.30• Comparative Physiology: Hormones and Homeostasis: Blood Sugar and Blood Calcium (S22; prog 8).
10.40• Making Sense of Society: Airline Pilot (D101; prog 16).

RADIO 3 (VHF)

6.00 Genetics: Wings and Things (S299; prog 8).
6.20• The Age of Revolutions: Kant: Freedom, Reason and Desire (A202; prog 18).
6.40• Open Forum—News and Comment for Students and Staff.
17.45• Elementary Mathematics for Science and Technology: Optimization (MST281; prog 8).
18.05• Second Level Biology: Hormones and Homeostasis (S2-; prog 7).
18.25 Topics in Pure Mathematics: Worked Examples in Topology (M204; prog 4).
18.45• Statistical Sources: Measuring the Success of an Incomes Policy (D291; prog 11).
19.10• Technology Foundation Course: Problems with Plastics (T100; prog 22).

Replacement programmes for north Scotland and parts of Wales

24.00• Decision-Making in Britain: Models of Decision Making in Health (D203; prog 23).
00.20• Reading Development: Responsive Reading (PE261; prog 5).
0.40• Making Sense of Society: Work in Capitalist Society (D101; prog 18).

Friday June 18

BBC 1

7.05• Principles of Chemical Processes: Chemical Equilibrium (ST294; prog 9).
7.30• Statistics: An Interdisciplinary Approach: Sampling (MDT241; prog 6).

BBC 2

6.40• The Nineteenth-Century Novel and its Legacy: Hardy and "Jude the Obscure" (A302; prog 9).
7.05• The Age of Revolutions: Moral Conflict (A202; prog 9).
7.30• The Revolutions of 1848: Face of Germany (A321; prog 6).
18.40• History of Architecture and Design 1890-1939: English Houses of the 1930s (A305; prog 10).

RADIO 3 (VHF)

6.00• Curriculum Design and Development: Approaches to Teacher Education (E203; prog 13).
6.20• Topics in Pure Mathematics: Worked Examples in Topology (M204; prog 4).
6.40• New Trends in Geography: The Nature of Social Geography (D281; prog 9).
17.45• Industrial Relations: NHS (P881; prog 3).
18.05• Personality and Learning: Social Perception (E201; prog 18).
18.25• The Digital Computer: Mock TMA—No 3 (TM221; prog 9).
18.45• Genetics: Wings and Things (S299; prog 8).
19.05• Science Foundation Course: Controls, Brains and Computers (S100; prog 18).

Replacement programmes for north Scotland and parts of Wales

24.00 Modern Art from 1848 to the Present: Styles and Social Implications: Revolutionary Graphic Art (A351; prog 10).
00.20 Social Psychology: Multiple Realities (D305; prog 9).
00.40 Technology Foundation Course: Body Corrosion (T100; prog 21).

• repeated programme

BOOKS

Transformation of family life

The Making of the Modern Family
by Edward Shorter
Collins, £4.50
ISBN 0 00 211542 5

Edward Shorter is an Iowa-born historian, now teaching in Canada, who has specialized in the history of the French peasantry in the eighteenth and nineteenth centuries; he has written a detailed study of the *charivari*, the village shaming of men or women whose conduct was disapproved of; he has also read diligently in Bavarian and some Swedish archives. The question he has posed in this wordy and much annotated book is how any institution as repulsive as his reconstruction of European peasant life can have evolved into the warmly erotic and cosy domestic life we all enjoy today.

On some levels the problem is a real one. From a social anthropological perspective, it is very uncommon for societies to permit marriages to be contracted on the sole basis that the two partners have "fallen in love", are mutually attracted; the modern Western world apart, the only recorded instances known to me are a few American Indian and Polynesian tribes; in the rest of the world fixed customs (such as cross-cousin marriages), the interests of the parental generation or of the community have determined who shall marry whom. It would be interesting to know why we have adopted so aberrant a pattern; but Mr Shorter has no anthropological perspective—he is extremely cavalier in putting gobbets of evidence from all over Europe and North America together to prove a point, without regard to local culture or religion—and for him the current pattern is the admirable norm and what he calls "traditional" is aberrant.

He claims to be a colleague of Peter Laslett, whose *World We Have Lost* is a bench-mark in the study of our non-literate ancestors; but how could a serious student of family history write:

> The nuclear family is a state of mind rather than a particular kind of structure or set of household arrangements. It has little to do with whether the generations live together or whether Aunt Mary stays in the spare bedroom. Nor can it be understood with kinship diagrams and figures on family size. What really distinguishes the nuclear family—mother, father and children—from other patterns of family life in Western society is a special sense of solidarity that separates the domestic unit from the surrounding community.

This paragraph alone would seem to separate Shorter from serious historians such as Peter Laslett or Lawrence Stone (author of *The Rise of the Nuclear Family in Early Modern England*, reprinted in *The Family in History* edited by Charles E. Rosenberg) as well as potential colleagues in the other social sciences. The "nuclear family" is a generally accepted technical term; and to redefine it as Shorter has done is reminiscent of Humpty Dumpty's way with words.

A Victorian family in India

In his attempt to reconstruct the traditional life of "ordinary men and women" of the European peasantry in the eighteenth and early nineteenth centuries, Shorter is very austere in his employment of sources. He rejects all the possible evidence from literature or any of the fine arts as being too bourgeois, too biased; besides the municipal archives, from which statistics can sometimes be extracted, he puts his trust in the reports and reminiscences of local medical doctors, minor bureaucrats and local antiquarians and folklorists, who wrote before the professional folklorists took over. His evidence is predominantly from France, south of Paris; but he darts all over Europe, irrespective of language or creed, when he can find evidence to back up his nightmare vision of the traditional peasant family.

He rightly states that the traditional family in Europe (as in most of the known world) was:

> much more a productive and reproductive unit than an emotional unit. It was a mechanism for transmitting property and position from generation to generation. While the lineage was important, being together about the dinner table was not.

For Shorter, being together about the dinner table is infinitely the more important; and he can only shudder as he describes peasant customs where the wife stands behind her husband and only eats after he has finished, where the couple were brought together in marriage by the wishes of their parents and under the supervision of the community, and where they probably lacked privacy for marital intercourse, which Shorter coyly, and repeatedly, refers to as *la vie intime*.

At the time of the greatest ascendancy of the Victorian *pater-familias*, historians and armchair anthropologists invented the nightmare of "matriarchy" in which the tables were turned and the women became masters and the men slaves. Shorter's picture of traditional family life is a similar simple reversal: romantic love is replaced by hate-filled arranged marriages, privacy and autonomy by neighbourhood and community supervision, maternal tenderness by maternal neglect.

His chapter on "Mothers and Infants" is the most nightmarish of all: "The point is that these mothers did not *care*, and that is why their children vanished in the ghastly slaughter of the innocents that was traditional child-rearing." Poverty and poor hygiene are barely mentioned as the causes of high infant mortality and the apparently low emotional investment in babies; it was traditional maternal neglect which kept the babies in filthy swaddling clothes and on occasion boarded them out to callous peasant nurses. Of course, a society in which all the mothers were so neglectful would not have been viable; whatever the gruesome titbits which can be picked up from the comments of shocked doctors visiting the French and German provinces, the majority of infants must have received good enough mothering; after all, the country remained populated.

Shorter believes that the transformation from the traditional to the modern family was caused by change of sentiments in three areas; courtship and romantic love, mother-infant tenderness, and domesticity, the preference for a sealed child-centred nest to community life.

Since Shorter eschews literary evidence, he cannot call on the great popularity of Richardson and Goethe, Rousseau and Prévost, and numberless other poets, novelists and dramatists of the eighteenth and early nineteenth centuries as possible exemplars and explanations of the rise in the value given to romantic love; instead, he finds the evidence in the great rise of illegitimate births between 1750 and 1850!

In his view, all these bastards are literally love-children; and the fact that so many of the young women who left their parental homes to live unsupervised in the big cities and earn their livings in the developing industries became pregnant is taken to show that they were romantically in love with their impregnators, even though they did not marry them. It would seem that other explanations are available.

He does admit that tender motherhood, with mothers enjoying suckling their babies, originated in the middle classes and was encouraged by middle-class authors; and the domestic nest, free from relations and neighbours, was developed in response to the mobility required in much modern capitalism.

When he comes to his euphoric descriptions of the "modern" and "post-modern" families, particularly in the last two chapters, Shorter abandons all logical consistency and concern with "ordinary" men and women. Since his prototype of the traditional family was the poor European peasantry, one would have expected his delineation of the modern family to be derived from the same social groups or, at the very least, from the most disadvantaged groups in contemporary society, such as the blacks and chicanos in America, the "guest-workers" in Europe. Not a line on such people. The lineaments of the "modern" and "post-modern" families are discerned in the surveys of the ubiquitous American students, in the work of Kinsey and his associates and followers, with a few side glances at similar work in Europe.

Shorter gives the impression of wishing to ingratiate himself with students, both by his eulogies of their present life style and by the use of slightly outmoded slang such as "making out" as a periphrasis for copulation. He also employs facetious neologisms: "heart's felicific calculus", "a peasantoid miracle", "immiseration" and the like.

Thoroughly modern Mr Shorter further flatters his students by discerning a "second sexual revolution", dating from 1955, in their "post-modern" way of life:

> But as the post-modern family rushes down upon us, parents are losing their role as educators. The task passes instead to the peers, and with its transfer passes as well a sense of the family as an institution continuing over time, a chain of links across the generations. The parents become friends (an affective relationship), not representatives of the lineage (a functional relationship). If this is so, we are dealing with an unprecedented pattern.

If this were so throughout any large European or North American society, and not merely on the student fringes, this would indeed be unprecedented; but Shorter does not adduce any evidence to support this hypothesis, comparable to his scrupulous documentation of traditional peasant life in Europe. When he discusses the modern family, Shorter is a writer of "think-pieces" rather than a historian or a scholarly sociologist.

Geoffrey Gorer

Futile wars and negative peace

The Transformation of Europe 1558-1648
by Charles Wilson
Weidenfeld & Nicolson, £7.95
ISBN 0 279 77015 2

Surveys of European history appear regularly in the bookshops and *The Transformation of Europe* is the latest in a long line. Its publication must prompt the question, therefore, of whether this volume offers an analysis of the period sufficiently distinctive to make it worth recalling and re-reading. The answer is that it does. Of course it shares with all such *coups d'oeil* the need to set arbitrary limits, limits which necessarily imply a somewhat partial treatment of the material. Professor Wilson recognizes this problem of selection and acknowledges at the outset his greater interest in Western than in Eastern Europe. Nor is it surprising that such a distinguished historian of the Netherlands should give a prominent place to the emergence of the Dutch Republic. It is indeed arguable that this particular phenomenon does constitute one of the crucial developments of the period and deserves at least the weight given to it in this account. For in political and economic terms the United Provinces represented a new order which would have a profound influence on the world beyond its frontiers.

The author writes with a robust good sense and a lightness of touch which conceals the heavyweight nature of the underlying scholarship. The book is full of insights: the importance of the quality of the land in the shaping of serfdom; the significance of intra-European as opposed to colonial trade; the utterly convincing portrait of William the Silent; the astute comparison between Philip II of Spain and the Stuart Charles I: both uncertain in their handling of affairs, both remarkably ungrateful to their loyal servants.

However, what is most impressive about this volume, what does make it a particularly instructive work, is the author's understanding of the shapelessness of events, of the near importance of the accidental and the immediate, of the permanent imminence of anarchy. He emphasizes the futility of the Italian Wars between Valois and Habsburg which he characterizes as entirely devoid of rational purpose. He underlines the negative nature of the Peace of Westphalia as the product of a bankrupt, exhausted and deadlocked Europe rather than as a monument to a new order; and he follows Kossmann's now rather unfashionable verdict on the French civil wars of the *Fronde* as an interlude "of imprudence and exaggeration without meaning or objective". Though primarily an economic historian himself, he nevertheless fears that the importance of the immediate political circumstances may be lost in the eager quest for longer-term socioeconomic explanations. He draws our attention to the limited significance of the Battle of Lepanto despite its symbolic importance, to the haphazard nature of the Anglo-Dutch preparations to defeat Philip II's armada as well as to the defective strategy behind that venture itself. When dealing with the flowering of post-Renaissance culture he eschews any all-embracing explanations, though his observation that "Genius like fever is infectious" is truly illuminating.

The Transformation of Europe is elegantly produced and contains chronological tables and a bibliography as well as a number of maps, diagrams and illustrations. It offers a lucid and well-ordered account made memorable by the implicit and salutary reminder that in practising his craft the historian must seek to square the circle. For in imposing of necessity some kind of shape upon the past he runs the risk of distorting the particular events with which he is concerned.

J. H. Shennan

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BOOKS

Messages of the media

The Mass Media of the German-speaking Countries
by John Sandford
Oswald Wolff, £5.25
ISBN 0 85496 203 4

Broadcasting and Democracy in West Germany
by Arthur Williams
Crosby Lockwood Staples, £6.00
ISBN 0 258 96996 2

What with the Royal Commission on the Press and the NUJ closed shop the future of the newspaper industry is so much in the public eye that Dr Sandford could scarcely have chosen a more propitious moment to put on the market this guided tour of Fleetstrasse. Nor does the topicality end there. Lord Annan's investigation is going to bring the future of radio and television into just as much prominence so that the other preoccupation of the book, broadcasting in East and West Germany, Austria and Switzerland, should be read with similar interest. In this latter field similar subject matter for West Germany alone is taken by Mr Williams and explored in depth in relation to one central theme, the connexion between broadcasting and democracy. The two books are therefore complementary rather than in competition and between them they set out to chart some new territory in German studies; an insight into the working of the media is a useful component of any more general appreciation of modern German culture.

Sandford's book puts together for the interested layman the jigsaw of his haphazard impressions. It explains for example why German quality newspapers strike the British observer as so prim and in such sharp contrast to the violence of *Bild* and the prurience of the illustrated weeklies, devoted as they are to the task of chronicling though personally I find *Der Spiegel*'s slickness more off-putting than he does; give me *Die Zeit* any day. Probably the most significant of the matters discussed is the current widespread concern over what the Germans call the "concentration of the press". Again, this is of topical interest.

Topicality however brings bad luck as well as good, for invariably events overtake the text. The author could hardly have foreseen the present furore in this country over the closed shop. There are only a few fairly oblique references to the problem of codetermination when in fact it would have been of major interest to explore this particular dimension of the concentration of the press, to describe the two German counterparts to the NUJ and the Institute of Journalists and to explain the rather more firmly established freelance tradition. Is this just one more illustration of how the Germans manage their industrial relations in a more civilized fashion than we do? If so, is the price too high, for it can hardly be denied that as a general rule conformity pays off in West German journalism. There is not much virtue in a freelance atmosphere if falling circulation is forcing newspapers out of business and the individual journalist can only sell his services to an increasingly monolithic conservative press.

A similar problem arises in broadcasting and is at the heart of Williams's book. He describes the stations as being caught in a pincer movement between the aspirations of their production teams on the one hand and the external pressures exerted by various controlling groups on the other. The difficulty about exhaustive treatment of this particular subject is that there is no way of escaping the preoccupation with explicit constitutional niceties to which our German friends are often prone and which our own tradition has taught us to abhor. The head count democracy which it leads to is semantically *wogenheit* which as the author points out, gives the term "balance" an implication of precise measurement. As to the practice in terms of voting power, a good example of its working is the tussle in Bavaria which ended in the redressing of the balance between the political parties and what are called, a shade earnestly, "socially relevant groups". The point being made is, I suppose, that in broadcasting, politics is too important to be left to politicians. It is a tribute to the author's skill that despite the *longueurs* forced on him by the subject matter he has managed to make his book interesting for the general reader as well as informative for the specialist.

Arthur Hearnden

Limits of sociology

Sociology in Action
by Christopher G. A. Bryant
Allen & Unwin, £6.25
ISBN 0 04 300058 4

Socio-technics
by Albert Cherns
Malaby Press. £13.50
ISBN 0 460 14005 1

What are sociologists for? What sorts of valuable social roles follow from being a sociologist? There is of course no one answer and Christopher Bryant's book is in any case a critique rather than a recipe. He reviews the different ways in which prominent sociologists from Saint-Simon to Alvin Gouldner have sought to be useful citizens, or at least to create and demonstrate a counterpart of their sociology in social action, and he concludes that almost all the attempts we have yet seen to build social action out of sociology have been in some degree flawed, illogical or unrealistic. Most of them are also not to his taste politically. Indeed, in many ways this is a book for politicians, administrators and other would-be users of sociology rather than for sociologists themselves. Many of the latter will groan at the prospect of yet another tour round Marx, Weber and Durkheim, another exposure of positivism, another expression of cool enthusiasm for the work of C. Wright Mills. The relatively novel parts of the book, the discussion of sociology in Poland or of the *"sociologie active"* of Dumazedier and others or of the confusions of Ralf Dahrendorf are really too slight, superficial and assertive ("Dahrendorf's achievements to date are considerable without being really compelling"), to contribute significantly to the by now well-informed soul-searchings of sociologists.

But what is achieved here is a remarkably forceful statement of the primacy of politics. What emerges is the very plain message that sociology, like philosophy is, as Locke recognized long ago, occupation for "underworkers", a matter of clarification and intelligence not of decision. It is not that sociologists have not found ways of intruding themselves into politics, whether as agents of government, of criticism or of revolution—their achievements in this respect, especially those of Durkheim, are if anything underestimated by Bryant. It is rather that their political and social involvements have no tenable sociological justification. There is no scientific grounding for ethics, no way in which we can know definitively what we should do; we are committed to making our own history by argument and contest in circumstances made by others with no legitimate recourse to higher authority. For sociology to have groped and lurched its way to such an understanding of social action is itself no small contribution to humanism and rationality; our mistakes have not been unprofitable. But once there are we any better off? The contemporary sociologies Bryant discusses in France, in Poland and in the United States appear to be wiser but hardly more effective than their predecessors.

The real gain is an advancement of modesty. Both *sociologie active* and the new sociology constructed around Wright Mills—and in a different way and for different reasons contemporary Polish sociology as well—are remarkable for the circumspection, hesitancy and caution with which they approach social action. They accept the existence of a world of political struggle beyond sociology, a world in which there are choices to be made and the future is open, and they seek little more than to increase the extent to which whatever choices are made are informed choices. Within these schools of sociology even the most passionate advocacy is combined with a dispassionate recognition of the limits of sociology.

This, then, is a book about the desirability of bringing sociology and politics together and about the difficulties of doing so given that sociology has failed to establish any convincing claim to supersede politics. In the light of that recognition it is a book that gives sociology the task of putting off for as long as possible that moment at the end of the sociological-political process when as Mills put it we just have to beat those who disagree with us over the head".

But if this argument puts sociology in its place it also puts politicians to live up to their responsibilities. It is a book that administrators who, having taken only expected social science produce authoritative legitimation for policy, have then mistakenly complained about the incompetence or irrelevance of social science when it let them down.

But where does this leave the sociologist who, however modestly remains anxious to realize himself once in action? If he is lucky enough to find himself in a society with a dominant political consensus to which he subscribes he can engage in limited sorts of social engineering, research for planning as Albert Cherns following Popper-Lynkeus calls it, "socio-technics". But the remarkable thing about Cherns's volume of papers Changing Practice in the wake of a major Anglo-American conference on this theme, is how while the Polish social scientist almost without exception accepts with some confidence about the possibility of enacting social policy within government—or many are openly about the role of sociology in clarifying and specifying the conditions, implications and consequences of different ways of handling communism—the British sociologists are with comparatively few exceptions wary, sceptical or even hostile to the very idea of technical intervention as a proper role for the sociologist.

Despite the fact that a number of such work is actually carried out in Britain even Cherns is led to doubt the possibility of any form of social engineering or the profession of social engineer. To understand the meaning Polish sociology has given the term", Cherns here would seem to be that to solve major problems of values and strategy, the problems of politics, once been solved the social scientist become an active agent of political change in the manner of the old positivist dream. When problems remain unsolved in Britain, the action prospects available to him must be essentially a matter of criticism, evaluation and advocacy. As the latter implies, as Christopher Bryant recommends, turn to the evaluation and criticism of strategies for desirable social change.

Phillip Abrams

Dissent, resistance and upheaval

Revolution
by Jean Baechler
translated by John Vickers
Basil Blackwell, £5.50
ISBN 0 631 16440 5

There are two main disadvantages to Dr Baechler's book, considered as an introductory text on the study of revolution. The first is relatively unambiguous and in no way the fault of the author. The English translator explicitly (and very understandably) abandoned the attempt to find an English equivalent for the work's original title *Les Phénomènes révolutionnaires*, opting instead for the brevity, simplicity and commercial charm of *Revolution*. A work entitled *Revolution* and published in a series on the sociology of the social sciences, of which the stated ambition is to clarify the "meaning and application of the fundamental concepts that are all too often loosely used in sociology and related disciplines" raises definite expectations. One may doubt whether revolution really is in any plausible sense one of the fundamental concepts either in sociology or in any other related discipline as now practised, though one could scarcely dispute its eligibility for clarification on the grounds of laxity of use. What is certain is that, if it were indeed such a fundamental concept in this sense, Baechler's work, whatever its intrinsic merits and demerits, would provide little if any help in clarifying its distinctive meanings or proper application.

The second disadvantage is certainly Dr Baechler's responsibility, though it is a matter of academic judgment and perhaps of political taste how far, if at all, he should be blamed for it. When we use the word revolution today, our use is implicitly premised on the events of 1789, if not indeed of 1917 or 1945—hence the commercial charm. Our reasons for supposing that revolutions constitute a distinctive field for study or even a distinctive class of naturalistically specifiable processes, depend on an interpretation of the character of the French, Russian and Chinese revolutions and perhaps even on an interpretation of historical process in which these are seen as key episodes. But Baechler's subject matter is not *the* set of revolutions considered as a distinct category but, rather those universal aspects of tension between individual and society of which revolutions are the most dramatic large-scale historical representations and perhaps outcomes. If one had been saddled with the task of translating Dr Baechler's title in a manner which would give the reader a reasonable guide to the contents of the book, one might have settled, for example, on *Phenomena of Dissidence; or on Dissent, Resistance and Political Upheavals*. The commercial charm has plainly disappeared.

It would be silly to criticize Baechler (as he himself points out) for not having written a book about revolutions as a distinct category of historical episodes, more particularly because there are strong grounds for doubting that revolutions can in any but a tautologous sense be said to constitute such a distinct category.

But it is a matter of judgment how far it is silly to criticize him for attempting to synthesize in 200 pages a work of sociology which treats all phenomena of human dissidence, from individual suicide and insanity to the Chinese revolution, under the same intellectual rubric. It is only a question, indicative that English judgments of the results of doing so are likely to be more severe than French ones.

Baechler is a pluralist sociologist with a strong feeling for the centrality of politics in social relations, a feeling interestingly exemplified in his recently published *Origins of Capitalism*. He is a writer of a French tradition of sweeping, at times somewhat dilettante, stretches, with some distinguished from Montesquieu, through Alexis de Tocqueville to Raymond Aron. His treatment of revolutions of which such is fundamentally typical is he is capable (as intellectuals of various traditions frequently are) of producing quite effective right-wing polemical cracks. He also deploys a strikingly wide range of allusions, ranging, with all too little effort, from the instinct of aggression and the neolithic revolution to the events of May 1968 in France. Such a range would be enviable were it wholly credible. But in those chapters about which one happens to know a little, for example, Soviet slave revolts or the Cuban revolution, his level of information and insight is unimpressive. Tragically so far, he can only travel hopefully. The resulting text, moving from the utterly banal to the strikingly false with far too little in the way of interstices, is more likely to stimulate irritation than assent or thought. When on his last page Baechler confesses to being "caught in the trap of myself problematics", most readers will have followed him thus far willingly with him there.

John Dunn

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BOOKS

Folk literature

East Anglian Folklore and Other Tales
by W. H. Barrett and R. P. Garrod
Routledge & Kegan Paul, £3.75
ISBN 0 7100 8300 9

Legends of Icelandic Magicians
translated by Jacqueline Simpson with an introduction by B. S. Benedikz
D. S. Brewer, £3.00
ISBN 0 85991 015 6

W. H. Barrett's *Tales from the Fens* and *More Tales from the Fens* were published in 1963 and 1964, both in collaboration with Enid Porter, the well-known Cambridge folklorist. They were something of a landmark. The East Anglian fens are still a highly distinctive part of England; until recently at least they preserved very much their own way of life, and Barrett's *Tales*, reaching back from his own childhood in the 1900s to the mid-nineteenth century life of those who passed the tales on to him, made a remarkable record of this. Dry humour and sarcasm, a sharp grasp of fact and of character, and true narrative sense make these books a major contribution to our folk-literature, and a significant reference point in the English course that has ambitions to set recent "literary" literature in a context of contemporary popular writing. My impression has been that this major addition to English-course resources has by no means become sufficiently well known over the past decade or so.

East Anglian Folklore and Other Tales is a book that those who set adequate store by the earlier books will want to have and use, but inevitably, as a posthumous book (so far as Barrett himself is concerned), it tends to be slighter and more fragmentary than the earlier volumes.

It is not quite right to say that the book is filled out with reminiscences and the like from R. P. Garrod and Anne Barrett (W.H.B.'s wife) because Garrod's drawings have immense delicate charm of a rather bleak kind and superbly catch the quality of fenland or East Anglian scenes, while the account reproduced from Anne Barrett, a midwife, of delivering a child at night in a remote thatched Norfolk cottage is quite outstanding as a record of social stratification masking real (in every sense) human labour.

For all the interest and merit of that book, it must be said that *Legends of Icelandic Magicians* makes an altogether more powerful impression. This small collection, mainly of brief tales, almost anecdote-like, is a detonation. Taken together the two books seem a paradigm of the difference between "interest" (great though it may be) and art: and it is illuminating to identify the reasons. Briefly, the Icelandic collection emerges from fiercely extreme conditions setting up a simple but exceedingly coherent and stable social context. The Icelandic society, changing little from the noble eleventh-century Saemundur to the nonagenarian Snorri who died in 1803, set up a clear, stable and emphatic code—endurance, taciturn humour, compassion, fidelity; and finally, life so lived seems to touch always and naturally on frontiers that extend beyond itself, and so the supernatural in these tales is both natural and tremendous. The arrogantly youthful Loftur conjuring Bishop Gottskalk's proudly evil ghost to yield up its buried powers makes almost the only truly terrifying pages (all three of them) I have read for decades. This little volume deserves to be Book of the Month.

John Holloway

Debate on salvation

St Erkenwald
edited by Ruth Morse
D. S. Brewer, £3.50
ISBN 0 85991 009 1

St Erkenwald is an alliterative poem written about 1400. It is one of a considerable number of medieval English poems which are recognized as masterpieces by those who know them, but which are little read because of the difficulties of their dialect and of the alliterative style itself, and in many cases because no modern editions are available. The result is not merely the loss of considerable pleasure; it is a distortion of the whole picture of medieval English literature, for it prevents us from seeing that alliterative poetry, far from being old-fashioned and eccentric, is the central tradition and the norm, from which Chaucer and Gower are deviations. *St Erkenwald* is a classic within this tradition: a poem of classical proportion, concentration, restraint and unity, in which a writer of remarkable power is fully in command of his materials: a poem which, for all the apparent remoteness of its subject matter from modern interests, can still move us deeply.

In it, the saint, an Anglo-Saxon bishop of London, is called on to investigate a miraculously preserved corpse, dressed as both king and bishop, which has been discovered in a magnificent tomb in the foundations of St Paul's Cathedral, but of which no record can be found in ancient histories. Erkenwald questions it as to its identity, and it answers, explaining that in this life it was a pagan judge renowned for his perfect righteousness, and therefore buried with royal honours; to which God, who loves justice, has added the miraculous preservation of its body. Surely, then, the saint says, God, who promises heaven to the just, must also have saved his soul? No, answers the judge; that could not be, for he did not know of the Christian faith; and he sadly asks:

> What won we with our well deeds,
> that wroughton ay right,
> When we are damned dolefully
> into the deep lake
> And exiled from that supper so,
> that solemn feast

Chroniclers in verse

Scaldic Poetry
by E. O. G. Turville-Petre
Clarendon Press: Oxford University Press, £6.00
ISBN 0 19 812517 8

While it has taken a rise in cod prices and a bizarre and humourable series of naval engagements to arouse an active awareness of the Icelandic nation in popular British consciousness, Old Icelandic literature has for some time enjoyed a significant popularity among literary students attracted by the angularity of its manner and the austere clear-sightedness of its matter. Indeed, at a time when diplomatic relations have ceased to exist, literary relations flourish as never before. The undergraduate and graduate student in England now has ready access to a small but growing number of serviceable Icelandic prose texts, to a wider range of saga translations, and to some worthwhile critical material, including work of distinguished saga scholars made available in English for the first time.

Old Icelandic verse, which played such an important part in nourishing late seventeenth and early eighteenth-century British antiquarian interest in Norse culture, has perhaps, with one or two notable exceptions, been less well served by twentieth-century scholars writing in English.

In particular the student has had relatively little opportunity to investigate the highly wrought complexity of scaldic poetry — Lee M. Hollander's *The Skalds* (1945) has stood almost alone for a long time, but it is now joined by Professor Turville-Petre's splendid book. In it the author has assembled a range of representative verses from 23 scaldic poets who are thought to have lived between the ninth and eleventh centuries.

The accompanying material includes a literal prose translation of each verse, and comments on punctuation which examines points of vocabulary, prosody and syntax and which seeks to unravel the interlace of allusion in which the poets revelled. Formidable learning and discrimination are brought to bear on points of acknowledged difficulty and, where no "solution" is possible, the critical debate is clearly outlined. Moreover a full list of references is provided, enabling the reader to pursue individual cruxes for himself. The collection is prefaced by an admirably fluent and economical introduction in which the forms and functions of scaldic verse are discussed. The beginning of the study of such poems are unlikely to be (certainly ought not to be) beginners in Old Norse. It is, however, possible to imagine even the more advanced reader regretting the lack of a glossary.

The verses address themselves to subjects very public or intensely private. At one level the role of the poet is that of celebrator, the one who immortalizes great men and their deeds. It is partly through the poet's efforts that the *Húsdrápa* can claim that the one thing which never dies is the reputation of the dead. Yet if the role of verse chronicler implies a commitment to one particular patron, the scald could also be an itinerant, a kind of metrical mercenary using his craft to produce what amount to versified calling-cards which, if well received in the courts of Scandinavia or farther afield, guaranteed him honour, esteem and (not infrequently) a shipload of assorted bangles to send him on his way. The more "private" poems seek to distil a mood, a moment—sometimes to reveal a mind in turmoil. Love and jealousy, faith and doubt, fear and grief all find complex and memorable expression as does a recurrent and profound sense of the unappeasable immensity of nature in general and the sea in particular.

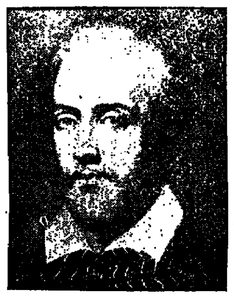
Scaldic Poetry is a major contribution to Icelandic scholarship in English and is far more than just a student edition, though Professor Turville-Petre does remark in the preface that the book was a response to the needs of teaching such verse.

A. C. Spearing

Back and forth in time

Spenser's Art: A Companion to Book One of the Faerie Queene
by Mark Rose
Harvard University Press, £1.85
ISBN 0 674 83193 4

Conceitful Thought
by Alastair Fowler
Edinburgh University Press, £4.50
ISBN 0 85224 286 7



Mezzotint by J. C. Le Blon of Edmund Spenser, after the Chesterfield portrait. From a copy in the British Museum.

Some of the problems involved in rescuing earlier literature for the full appreciation of the modern reader are illustrated in these two books. Professor Rose's exposition of the nature of the action and the significance of how Spenser narrates it in book one of *The Faerie Queene* is directed at the modern American student, with little or no knowledge of the biblical and classical background and no awareness of the complex of traditions about epic action and discourse and about levels of meaning in such discourse that lies behind Spenser's work. It is a determined effort to move *The Faerie Queene* into our own time, to place it in a context in which it can be related to the world we know and can be appreciated for that relationship.

This involves considerable simplification, but in a work of this kind, where attractive readability is all-important, simplification is unavoidable. What Rose says is certainly helpful to the non-specialist modern reader. Specialists may object to some rather cavalier pieces of exposition, but Rose knows what he is doing and for whom he is writing. What he leaves out or simplifies, we feel, is not left out or simplified from ignorance or insensitivity, but in the consciousness of the limitations imposed on him by the job he has set himself. His task is to help make *The Faerie Queene* more accessible in our time, and I should say he has performed it with some skill.

Professor Fowler's task is in a sense the contrary of this: it is to push back Tudor works into their original contexts and in doing so bring home to us how inaccessible many of them are to the reader who, however perceptive and sophisticated, is inadequately informed about the original context, which sometimes can never be wholly recovered. This is not a question of using history or biography in order to elucidate a text which would otherwise be obscure, nor is it a matter that the now old New Critics could dispose of by their insistence on the ideal anonymity and timelessness of a work of literary art. It is a question of appreciating certain kinds of knowledge possessed by the original readers and their consequent expectations; the relevant modes and traditions employed or drawn on or alluded to; the relevant conventions concerning genre, area of reference, kinds of symbolization; the sorts of patterning expected or appreciated; the kind of artifice looked for in the particular sort of poem represented by the work in question.

The opening essay, on Wyatt, is in some ways the most interesting of the six in the book. It leads us to reconsider our response to Wyatt by demonstrating with disturbing particularity how distanced, how unfamiliar, how in some degree irretrievable are many features of Wyatt's poems and how uncertain the modern reader's interpretation must therefore be. At the same time the poems emerge as no less accomplished and indeed a good deal more fascinating than they appear to the less historically aware critic. Other essays, on poems by Surrey, Sidney, Spenser, Shakespeare, Jonson and others, illuminate in different ways the range and type of artifice employed in Tudor poetry and correct some commonly held notions about the difference between Elizabethan and Metaphysical imagery. (Elizabethan conceits tend to be more complex and oblique, while Metaphysical conceits have a greater simplicity of figurative structure which allows for a more rigorous logic.)

Sometimes Fowler explores possibilities of pattern implicit in potential references or sequences of imagery or "numerical decorums" to a point at which the poem almost disappears beneath the weight of his learned commentary, or at least (as with his discussion of Sponsor's "Prothalamion") appears overfreighted with the burden of its dense and locally rooted meaning. But at least he makes clear that much of what has previously been considered "decorative validity" in parts of Spenser and in other Elizabethan poets is not that at all, but richly orchestrated formal expression. This is a book that at the same time increases understanding and makes us aware how relatively little of it we have or can have. It provokes both reflection and modesty.

David Daiches

new from Manchester
THE REVELS PLAYS General editor P. D. Hoeniger
Manchester University Press have acquired from Methuen and Co Ltd the complete stock and future publishing rights in The Revels Plays. This long-established series of 16th, 17th and 18th century play texts, edited to the highest academic standards by scholars of international repute, now numbers some 21 volumes and includes an Open University and several undergraduate set texts. Among titles planned for publication within the next year are **THE JEW OF MALTA, THE SHOEMAKER'S HOLIDAY, ANTONIO'S REVENGE, THE FAWN,** and **THE SECOND MAIDEN'S TRAGEDY.**
Complete stock list available on application.
THE BATTLE OF MALDON Edited by E. V. Gordon
Published originally in 1937, E. V. Gordon's edition is still the only separate text with complete annotations and glossary. It has now been taken over by Manchester for inclusion in the Old and Middle English Texts series. D. G. Scragg has produced an eight-page addendum reviewing the main developments in critical opinion of the poem since 1937, with a supplementary bibliography.
August, paper about £1.25
MANCHESTER UNIVERSITY PRESS
Oxford Road, Manchester M13 9PL

BOOKS

Balancing act

The Principles of Inorganic Chemistry
by William L. Jolly
McGraw-Hill, £10.40
ISBN 0 07 032758 0

In 1914 Sir William Crookes wrote expectantly of a time when the inorganic chemist would be "set free from the need for experiment, knowing a priori what the result of each and every experiment must be". In 1976 this time seems more remote than it did then. Modern inorganic chemistry is a collection of facts linked by empirical generalizations which generate limited results with the minimum of logical development, and by electronic theories with weak predictive powers. Books on the principles of the subject concentrate on the second of these two devices.

The first third of the book covers the electronic configurations of atoms, covalent bonding and molecular orbital theory. The treatment of valence shell repulsion theory is marked by antagonism to the use of *d* orbitals in the bonding; the resulting emphasis on variable *s* and *p* hybridization, and on formal charges, is an unusual and interesting refinement. Three chapters on solids describe common structures and their packing relationships before giving a brief account of lattice energies and a fuller one of semiconductors. There is a welcome section on metals which discusses ferromagnetism, and testifies to growing interest in the Brewer-Engel theory of metallic structure. In another chapter, the structures of boron hydrides are treated through topological equations and MO theory. The seven terminal chapters on transition metal chemistry follow existing textbooks closely, apart from an agreeable piece on the $2n+2$ rule for polyhedral metal clusters. The preoccupation with structure and bonding is very marked.

The weakness of electronic theory is most apparent when it is faced by chemical behaviour. Confronted with explaining why manganese is like it is, there is little more to say than that reactions occur because they are fast and thermodynamically favourable. This response is apparent in a concise account of redox potentials. More descriptive chemistry appears only when it enjoys current popularity, as in the chapters on solvated electrons, catalysts and bioinorganic chemistry. The book contains many recent references, and chapters end with study problems; the value of some problems is increased by the inclusion of terminal answers and comments.

When descriptive chemistry is omitted, principles invariably take on unwarranted strength: The Mosser-Pearson plot in chapter 10 would look distinctly less impressive if alkali metal hydrides were included. A rectangular distortion of square-planar tetratomic phosphorus yields six bonding electron pairs as in the tetrahedral molecule; the triumph claimed for simple MO theory then disappears. The ionization energies of valence electrons of fixed *n* are *not* proportional to the square of Slater's effective nuclear charge: for sodium, the hydrogenic expression closely reproduces the ionization energy, but for argon the calculated value is over four times too great.

Given the philosophy of the book, these and other instances are not serious flaws in a competent piece of work. They are, however, a reminder that the balanced and critical integration of fact with principle remains one of the most difficult problems in the teaching of inorganic chemistry.

David Johnson

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If you are teaching the biosciences in higher education, you should be reading our new magazine: Trends in Biochemical Sciences. As a full-time teacher, TIBS can help you keep up with current research which might be vital to your teaching curriculum. It will also keep you up to date with news, book reviews, letters to the editor, Nicholas Wade's monthly letter from Washington, positions wanted, situations vacant and a noticeboard of forthcoming meetings and courses.

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Invariance in isolation

Symmetry Principles in Elementary Particle Physics
by W. M. Gibson and B. R. Pollard
Cambridge University Press, £14.50
ISBN 0 521 20787 8

Symmetry principles and conservation rules are the backbone of our description of the subject of particle physics. This is a rapidly developing field, where major new experimental discoveries—and the phenomenological models to describe them—appear with bewildering speed. The basic invariance principles are therefore all important, since they at least may have a degree of permanence.

The authors discuss this particular aspect of particle physics in great detail, starting from first principles. After an introduction on transformations in quantum mechanics, they treat the subject of angular momentum and the helicity formalism; this is followed by an excellent account of parity and time reversal invariance, with discussion of experimental results and limits for the different types of interaction. Chapters on charge conjugation and isospin invariance lead naturally to higher symmetries; there is a clear and straightforward exposition of SU3 symmetry followed finally by a discussion of the quark model of hadrons.

The authors have gone to great lengths to present the material clearly, comprehensively and at a level suitable for graduate students, and also to assure accuracy and freedom from errors, typographical or otherwise. There is only an occasional misleading statement—for example, that the change of sign of the wavefunction of a spin $\frac{1}{2}$ particle under a 180° rotation leads to no observable consequences. A very comprehensive list of references is provided—one of the most valuable features of the book. The absence of a problem set at the end of each chapter is a most regrettable omission, since it is only in tackling such problems that students overcome the conceptual difficulties presented by new material and new principles.

Although experimental results are generally quoted where appropriate, the reader gets no feeling for the degree to which superselection rules are really "absolute". There are finite limits on the validity of baryon conservation, the Pauli principle, etc, and it would have been useful to include this information. a definitive text of this which also deals with syste which are known to be approximate.

The authors have intend restricted themselves to a relativistic treatment of inva of quantum field theory relevant results from it—is Disappointingly therefore, the most important and challe concepts in the general subj symmetries are missing. Gau for example, that a student s izing today in particle should at least have heard even if he has not follow detail—the topic of gauge gro and its generalization, partic most exciting development theoretic ideas since Heisenb general impression of the that the subject of invaria part of it) has been well p but somewhat in isolation indication is given of r material selected fits int broader scenario of field theo indeed of high energy physics whole.

D. H. Perk

Predictable answers

Statistical Prediction Analysis
by J. Aitchison and I. R. Dunsmore
Cambridge University Press, £8.50
ISBN 0 521 20692 8

Sequential Methods in Statistics
by G. B. Wetherill
Chapman & Hall, £3.95
ISBN 0 412 13270 2

Statistical Inference
by S. D. Silvey
Chapman & Hall, £2.30
ISBN 0 412 13820 4

Statistical Prediction Analysis is concerned with the problem of using observations from one experiment directly to predict the outcome of a second, independent, experiment which has the same unknown parameters as the first. The approach should be contrasted with the more familiar one of first estimating the unknown parameters and using the estimates as if they were the true values to allow prediction. Of course the problem is very amenable to a Bayesian solution, but the authors do discuss a non-Bayesian approach as well.

The first chapter is concerned with "predictive distributions" for the outcome of the second experiment. These are obtained by integrating out the unknown parameter by using the posterior distribution obtained from the observations of the first experiment. Introducing utilities to measure the gains and losses involved in using a predictive distribution leads to the second chapter on "decisive prediction". The results are illustrated by a detailed worked example on machine tool replacement.

The next three chapters are concerned with "informative prediction"—this is the problem of constructing a region which is likely to cover the outcome of the second experiment. In addition to the Bayesian approach, there is an extensive discussion of tolerance regions. Finally, the authors apply their methods to problems in sampling inspection, regulation, calibration, dilution and assessment allocation and this is the most interesting part of the book. For example, the chapter on diagnosis contains an extensive account of a Bayesian approach to discriminating between three possible types of Cushing's syndrome using the information gained from two diagnostic tests—a problem most would solve by the usual methods of discriminant analysis.

Regrettably the book is too methodological in the early chapters and in several places consists of lists of results for special distributions. However, the arguments are always clearly presented and if readers persevere to the end, they should find the last part of the book both interesting and useful.

The first edition of Wetherill's book on sequential methods was published in 1966. This new edition contains brief additional paragraphs in most chapters referring to results published since then. There are also two short, new sections: one is devoted to a discussion of a two-sided test of a normal mean proposed by Billard and Vagholkar and the other to sequential interval estimation. To my knowledge, there are still only two other books which survey sequential methods; one is by B. K. Ghosh and is restricted to hypothesis testing, and the other by Z. Govindarajulu, was published last year.

Both of these are more comprehensive, but Wetherill's account still seems to be the most readable introduction to the subject. Anyone who already possesses the first edition should be warned that the second edition does not really differ sufficiently from the first to justify having both.

Silvey's book is a reissue. The original was published by Penguin Books in 1970, and went out of print about two years ago. Although very concise, the book has become firmly established as one of the more popular accounts of the elements of statistical inference for undergraduates specializing in statistics. Many will welcome its reappearance.

R. J. Reed

Among this week's reviewers

Philip Abrams is professor of sociology at the University of Durham;

David Daiches is professor of English at the University of Sussex;

John Dunn, university lecturer in politics and fellow of King's College, Cambridge, is author of The Political Thought of John Locke and Modern Revolutions;

Geoffrey Gorer's books include Death, Grief and Mourning, Danger of Equality and Sex and Marriage in England;

Arthur Hearndon, author of Education in the Two Germanies and, Education, Culture and Politics in West Germany, is secretary of the standing conference on university entrance;

John Holloway is professor of modern English at the University of Cambridge and a fellow of Queens' College;

C. J. Isham is reader in applied mathematics at King's College London;

D. H. Perkins is author of Introduction to High Energy Physics and professor of elementary particle physics at the University of Oxford;

J. H. Shennan, professor of European studies at the University of Lancaster, is author of The Parlement of Paris and The Origins of the Modern European State 1450-1725;

Gauge the

Gauge Theories and Weak Interactions
by J. C. Taylor
Cambridge University Press
ISBN 0 521 20895 3

An important problem for workers in an active field of elementary particle physics is communication of new ideas results. The task of a new attempting to learn from re papers alone can be fra One resolution of this difficu in the production of bo relatively inferior type techniques in which typ scripts (often with ha equations) are photocopie texts frequently suffer fr hasty writing and in addi being visually unattracti often littered with mistake Taylor and the Cambridge U sity Press are therefore to b gratulated on producing which, although typeset in t editorial way, is only a year date in its content.

Weak interactions have come much to the fore in elemen particle theory over the las years. This is due mainly to creation of Abdus Salam Weinberg of a weak intera model which, unlike the co tional Fermi theory, is reno isable. The success of the scheme lies in a clever use spontaneously broken SU2 gauge theory.

Within the space of 160 pa author achieves the rather able task of discussing most developments which have from this central idea. The heart of the book is an acc the Feynman path integral met tion of the Yang Mills gauge the The crucial Ward-Takahashi ties are obtained using the powerful work of Becchi, Rou Stora. These chapters are prov by discussion of conventional interaction theory, spontan symmetry breaking and the Weinberg model. They are follo by an account of dimensional r larization, anomalies, renorm tion, higher order corrections weak processes and applicat actions. Although the book is theoretical the author never sight of the physical significance the subject and there are use sections dealing with the ex mental status of these models.

In order to fit so much mater into so few pages some of the are only discussed briefly the pace is brisk throughout.

C. J. Isham

Correction

The correct title of Victor ner's book, reviewed on page in the *TIMES*, June 4, is *Tradition and Dissension in Ritual*, not *The Forest of Symbol Aspects of Ndembu Ritual*.

Classified Advertisements

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Universities

The British Council

invites applications for the following posts:—

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Graduate with 5 years' experience of TEO and ability to write ELT materials. TEFL qualification an advantage. Men preferred; UK citizens.
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Benefits: accommodation allowance; medical scheme. One-year contract, renewable. 76 HU 93-99

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Boleslaw Beirut University, Wroclaw
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Please write, briefly stating qualifications and length of appropriate experience; quoting relevant reference number and style of post for further details and an application form to The British Council (Appointments), 65 Davies Street, London, W1Y 2AA.

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Melbourne, Australia
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(Amended advertisement)
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The successful applicant is required to begin on December 1976, but the date is negotiable.
Salary: $A12,852-$A15,876 or $A16,776-$A17,820.
Further information and application forms are available from the Assistant Registrar, Universities (Amin), London W.C.1. Applications close on August 1, 1976.

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Closing date: 30th June, 1976.

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Applications invited from persons with honours degrees in Agriculture, Economics or Economics with some knowledge of Agriculture) for the post of RESEARCH OFFICER from September, 1976, to work on research into the economic characteristics of milk producing farms in South Wales.
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Further particulars and forms can be obtained from the Registrar.
Closing date for applications June 30.

AUSTRALIA
JAMES COOK UNIVERSITY OF NORTH QUEENSLAND
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Applicants should possess an initial interest in zoology or biology, a Ph.D. and some experience in university teaching and research. A population ecologist or physiologist specialist, preferably with an interest in entomology or biometrics, is sought but applications from suitably qualified in these fields will be considered.
Salary Range $A12,852 to $A17,820 per annum plus locality allowance of $A394 per annum for married males or $A197 per annum for a single appointee.
Information on conditions of appointment and application procedure available from the Association of Commonwealth Universities (Appts.), 36 Gordon Square, London, WC1H 0PF.
Applications close on 30 July, 1976.
Professor C. Burdon-Jones, Head of the Department of Biological Sciences at present in the U.K. interested candidates may write to him care of the Association.

ABERYSTWYTH
THE UNIVERSITY COLLEGE OF WALES
DEPARTMENT OF SOCIOLOGY AND SOCIAL ANTHROPOLOGY
Applications are invited for the post of TUTOR to commence on October 1, 1976. Specialist interest in Africa or Latin America, Third World areas may be an recommendation but is not essential; Sociology of science, Women's Studies, Education in Africa, Latin America, Third World in General.
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Further particulars and forms can be obtained from the Registrar.
Closing date for applications June 28.

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The appointee will be expected to assume duty not later than 1 October, 1976. Salary Scales: Lecturer from August 1976) Lecturer BD$917,795-$7,711 p.a. Assistant Lecturer BD$14,440-$6,788 p.a. (£1 sterling = BD$3.07). Taxed. Unfurnished accommodation will be let by the University at a rental of 10% of salary. A housing allowance of 20% of salary is payable to staff who make their own housing arrangements. Family passages. Study and Travel Grant. Detailed applications (six copies) including a curriculum vitae and naming three referees should be sent as soon as possible to the Secretary, University of the West Indies, P.O. Box 64, Bridgetown, Barbados. The University will send further particulars for these posts to all applicants. These particulars may also be obtained from the Inter-University Council for Higher Education Overseas, 36-37 Tolleshunt Court Road, London W1P 0DT.

ABERYSTWYTH
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DEPARTMENT OF AGRICULTURE
Applications are invited for the post of RESEARCH OFFICER to assist with research into the growth and potential nutritive value of grassland herbage. Fixed-term appointment.
Salary Scale: £2,766 to £3,090 per annum.
Further particulars and application forms may be obtained from the Registrar.
Closing date: 30th June, 1976.

THE ASSOCIATED EXAMINING BOARD
FOR THE GENERAL CERTIFICATE OF EDUCATION
Wellington House, Aldershot, Hampshire GU11 1BQ
The Board invites applications for the following posts:
(1) CHIEF EXAMINER in GRAPHS and ART and CRAFTS (PRINTMAKING) for the 1978 examinations.
(2) MODERATOR in GRAPHS and ADVANCED LEVELS for the 1978 examinations.
(3) MODERATOR in PRINTMAKING and ADVANCED LEVELS for the 1977 examinations.
Applicants must possess an A.T.D., B.A., M.A., M.Phil. or degree equivalent qualification and have had at least five years' teaching experience in schools and/or training colleges in these disciplines. Previous examining experience essential. Duties will commence in the Autumn of 1976.
All applications must be received within 14 days of the appearance of this advertisement.
Application forms and further particulars may be obtained by application in writing to the Secretary (A.10), Art and Crafts Department, at the Board's address.

University of Utrecht

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(1) A half-post for a
LECTURER in Old and Middle English Language and Literature
The successful applicant should have special training in OE and ME literature he/she would also be required to help with the teaching of OE and ME language where necessary.
Additional interests within the field of medieval studies would be welcome.

(2) A half-post for a
LECTURER
Contemporary English
section of the department.
The successful applicant should be able to teach all aspects of English as a Foreign Language and should have a postgraduate qualification in Applied Linguistics. These posts can be combined to form one full-time job. The initial contract is for four years, after which tenure may follow.
The salary will depend on age and experience, but the combined post would have a salary of about Du. Fl. 3000 per month.
Applicants should be prepared to learn Dutch in due course.

Applications with two copies of curriculum vitae and the names of two referees, mentioning vacancy no.: 76/04, should be sent within two weeks of appearance of this advertisement to the Secretary of the Department, Drs. D. Howes Smith, Institute of English Language and Literature, Oudenoord 6, Utrecht, The Netherlands.

UNIVERSITY OF CAPE TOWN
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Applicants should submit a curriculum vitae, stating present salary and including research interests and publications, and give the names and addresses of three suitable referees whom the University may consult.
Further information should be obtained from the Registrar, University of Cape Town, Private Bag, Rondebosch, 7700, to whom applications should be submitted not later than 30th July, 1976.
Academic enquiries may be addressed to Prof. John Howes, c/o the Philosophy Department.
Appointment will be subject to a satisfactory medical examination. The University reserves the right to appoint a person other than one of the applicants or to make no appointment.

ULSTER: THE NEW UNIVERSITY
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The Chair will be in experimental physics within the School of Physical Sciences.
Applications are invited, in particular from persons whose interests will complement and extend the existing research in solid state physics, but other research interests are not excluded.
Salary will be within the professorial range (minimum £7,397) with FSSU/USS.
Further particulars may be obtained from the Registrar, The New University of Ulster, Coleraine, Northern Ireland, to whom applications, with curriculum vitae and the names and addresses of three referees, should be sent not later than 2nd July, 1976 (quoting Ref. No. 76/145).

Universities continued

NATIONAL INSTITUTE FOR HIGHER EDUCATION, LIMERICK, IRELAND

The first phase of development within recently constructed facilities on the 120-acre riverside campus is now under way and staff are being recruited to develop and implement a variety of programmes ranging from specialist short courses to degree and post-graduate.

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LECTURER/ASSISTANT LECTURER (2 POSTS)

Persons appointed will be concerned with the development and implementation of programmes in the areas of production mechanical, and manufacturing engineering.
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LECTURER/ASSISTANT LECTURER

The person appointed will participate in the operation and development of the Degree and Diploma programmes in Industrial Engineering.
Experience is essential in one or more of the areas of work study, ergonomics and quality control. A broad knowledge of the subject area of production planning and control is expected, whilst experience with modern quantitative techniques will be an advantage.

ELECTRONIC ENGINEERING

LECTURER (2 POSTS)

The Electronic Engineering Department, emerging from its pilot phase, is recruiting personnel to contribute to the operation and development of Degree and Diploma programmes in Electronic Engineering and various allied courses.
Those appointed will be capable of teaching to final year degree level in several subjects and in addition will have specialist expertise in one of the following areas:
Digital Communications, Acoustics, Device Physics, Control, Process Instrumentation.

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LECTURER

Marketing is a principal option in Diploma and Degree programmes. The person appointed will work over a wide range of teaching, projects and research tasks, with a multidisciplinary Business Studies team. The appointee will be encouraged to establish contacts and liaise with industry.
Candidates should have relevant academic qualifications to at least the level of primary honours-degree, combined with practical marketing experience. Special interests and abilities in sectors important to the Irish economy—such as agriculture, tourism and international marketing—are particularly welcome.

SALARY: LECTURER—£5,152-£6,692.
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Additional annual allowances of £100 marriage and £70 per child together with other benefits.

Application material available from the Personnel Office, National Institute for Higher Education, Limerick, Ireland, to be completed and returned by Friday, 9th July, 1976.

CO. WESTMEATH VOCATIONAL EDUCATION COMMITTEE

ATHLONE REGIONAL TECHNICAL COLLEGE

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Applications are invited for the following permanent wholetime pensionable post:

LECTURER SCALE I—PLASTICS ENGINEERING OR PLASTICS TECHNOLOGY

(Preferably with experience of the main plastic industry processes)

Athlone College is one of the Regional Technical Colleges recently established in Ireland and is one of the main centres for technical and technological education in Plastics Engineering. The College offers a range of programmes including one leading to Graduateship of the Plastics and Rubber Institute by the engineering route.
Salary Scale:
Women and single men £4,411-£6,868
Married men £4,664-£6,284
Children's allowances are payable where applicable.
The number of increments which may be awarded for previous suitable experience is normally a maximum of five.
Qualifications and Conditions of service in accordance with Memo. V.7 of the Department of Education.
Interview and re-location expenses may be available
Application forms and further information may be obtained from

Michael Geoghegan, National Manpower Service, Costume Place, Athlone, Co. Westmeath, Ireland (Tel. 0902/2406.)

The latest date for receipt of completed application forms is Wednesday, 30th June, 1976.

AUSTRALIA

UNIVERSITY OF WESTERN AUSTRALIA
Perth

LECTURER/SENIOR LECTURER IN ACCOUNTING
LECTURER IN ORGANIZATION THEORY AND MANAGEMENT
LECTURER IN COMMERCIAL LAW

Required for the Department of Commerce. Appointees will be encouraged to develop their research interests and will have the opportunity to participate in the B.Com., M.Com., M.B.A. and Ph.D. programmes. The university has a fine library and computer facilities. Further information available from the Head of the Department, Professor R. M. G. Lourens.

Annual salary ranges: Senior Lecturer $A17,689 to $A20,321; Lecturer $A12,838 to $A17,229. Benefits include superannuation similar to F.S.S.U., fares to Perth for appointee and dependent family, removal allowance, study leave and long service leave and housing loan scheme.

Applications in duplicate, stating full personal particulars, qualifications and experience, should reach the Staffing Officer, University of Western Australia, Nedlands, Western Australia, 6009, by July 10, 1976. Candidates should request three referees to write directly to the Staffing Officer.

THE UNIVERSITY OF THE WEST INDIES—TRINIDAD

Applications are invited for the post of [illegible]

LIBRARIAN III

Candidates should be graduates (preferably in science), with a professional qualification. A minimum of three years relevant library experience is required. The appointee will be assigned initially to the Readers' Services Division of the Library. Salary Scale: 1975/76 TT$16,900-TT$25,788 p.a. (£1 sterling = TT$4.60). FSSU. Unfurnished accommodation if available at 10% or furnished at 12½% or housing allowance of 20% pensionable salary. Up to five full economy passages on appointment and on normal termination. Study and Travel Grant. Detailed applications (three copies) including a curriculum vitae and naming three referees should be sent as soon as possible to the Secretary, University of the West Indies, St. Augustine, Trinidad.
Further particulars of the post are available from the same source or from the Inter-University Council for Higher Education Overseas, 90/91 Tottenham Court Road, London W1P 0DT.

STATE UNIVERSITY OF UTRECHT

Faculty of Mathematics and Natural Science

PROFESSOR OF MOLECULAR BIOPHYSICS

Applications are invited for the post of Professor of Molecular Biophysics which falls vacant on September 1, 1977. Investigations in the field of molecular biophysics are carried out in the subfaculty of Physics and Astronomy within the Departments of Spectroscopic Biology (which specializes in photosynthesis) and Molecular Biophysics. Both Departments are housed in the Laboratory of Experimental Physics.

In addition to teaching duties, for which the English language may be used, the appointee is expected to conduct and supervise research.

Preference will be given to a physicist with proven ability to pursue high quality research in the field of molecular biophysics and will be expected to actively participate in interdisciplinary investigations with colleagues in the subfaculties of Biology and Chemistry.

Knowledge of the Dutch language is not a prerequisite, but it is expected that after a few years teaching will be in Dutch.

Applications, which should include a detailed curriculum vitae, list of publications and names of referees, should be sent within four weeks of the appearance of this advertisement to the secretary of the Selection Committee, A. van Nieuwpoort, Esq., Sorbonnelaan 4, Utrecht.

The Committee is willing to hear in confidence names of possible candidates who might be invited to apply.

Further information may be obtained from the Chairman of the Selection Committee, Prof. dr. M. A. Bouman, Laboratorium voor Experimentele Fysica, Sorbonnelaan 4, Utrecht. (Tel. 030-532808, 531938.)

UNIVERSITY OF YORK

DEPARTMENT OF ENGLISH AND RELATED LITERATURE

TWO LECTURESHIPS

Applications are invited for the above posts vacant from 1 October, 1976, from those who, in addition to English literature, have qualifications in European or American literature.

Salary scales
£3,174-£6,446, with USS.

Six copies of applications (one from overseas candidates) naming three referees, should be sent by 25 June, 1976, to the Registrar, University of York, Heslington, York, YO1 5DD, from whom further particulars may be obtained. Please quote reference number 6/3126.

LOUGHBOROUGH UNIVERSITY OF TECHNOLOGY

LECTURER IN LIBRARY AND INFORMATION STUDIES

Applications are invited for the post of LECTURER in the University's Department of Library and Information Studies to undertake duties primarily concerned with the M.A. course in archive/library/information studies and education. The course is intended primarily for teachers of librarianship in developing countries. Experience in professional training and librarianship at home and abroad would be an advantage.
Salary within scale £3,174-£6,446 plus U.S.S. Postcard requests for further details and application forms to Assistant Registrar (Establishment) ref: 76/20 LS(R). This post was previously advertised as temporary; it has now been established.
Loughborough Leicestershire

UNIVERSITY COLLEGE BUCKLAND
Faringdon, Oxon. SN7 8QX

LECTURERS IN LAW

Appointments with effect from October 1976.
Applications are invited from suitably qualified graduates to teach for the LL.B. of the University of London. Salary in the region of £2,500. Posts may be residential.
A curriculum vitae with the names and addresses of two referees should accompany the letter of application to The Director of Studies, from whom further details may also be obtained.

(Telephone Buckland 202/261). (182)

UNIVERSITY OF YORK

DEPARTMENT OF MUSIC

Lectureships

Applications are invited for a Lectureship in Music vacant from 1st October, 1976.

Salary scale £3,174 to £6,446 with USS. It is expected that the appointment will be made within the lower half of the scale.

Six copies of application, naming three referees, should be sent by Friday, 2nd July, 1976, to The Registrar, University of York, Heslington, York YO1 5DD, from whom further particulars may be obtained. Please quote reference number 6/3128.

BELFAST

THE QUEEN'S UNIVERSITY

TEMPORARY LECTURESHIP IN COMPUTER SCIENCE

Arising from leave of absence of existing staff, a temporary lectureship in Computer Science is available for three years from 1st October, 1976. Salary range: £3,174 to £6,447. Initial placing on the salary scale will depend on qualifications and experience. Applications should be received by 9th July, 1976.

Further particulars may be obtained from the Personnel Officer, The Queen's University of Belfast BT7 1NN, Northern Ireland. (Please quote Ref. 76/THES.)

DURHAM

THE UNIVERSITY

CHAIR OF LAW

Applications are invited for a Chair of Law in the Department of Law to be filled from 1st October, 1976, or such later date as may be arranged. Candidates should be experts in the Law of England but some preference may be given to those candidates with an interest in the development of Comparative Law studies.
Salary will be made on the Professorial scale together with normal pension arrangements.
Applications (three copies), including the names of three referees, must be submitted not later than Saturday, 17th July 1976, to the Registrar and Secretary, Old Shire Hall, Durham, DH1 3HP, from whom further details can be obtained.

THE UNIVERSITY OF THE SOUTH PACIFIC—FIJI

Applications are invited for the following posts:—

READER/SENIOR LECTURER IN EDUCATION (Post 76/34)

Two positions are available, one as Reader and the other as Senior Lecturer in Education. Candidates should possess good academic qualifications and experience in directing research and teaching programmes in Educational Psychology and/or Curriculum Development.

READER/SENIOR LECTURER IN GEOGRAPHY (Post 76/35)

Candidates should have demonstrated ability in the fields of population Economic or Social Geography. Preference will be given to applicants with research and/or teaching experience in developing countries.

LECTURER/ASSISTANT LECTURER IN EDUCATION (Post 76/36) (MATHEMATICS METHODS)

Candidates should have good academic qualifications in Mathematics and Education, substantial experience in the teaching of Mathematics and preferably experience in secondary teacher education.

LECTURER/ASSISTANT LECTURER IN EDUCATION (Post 76/37) (SCIENCE METHODS)

Candidates should have good academic qualifications in Science (and in Education), substantial experience in teaching secondary school science and preferably experience in teacher education.

SENIOR LECTURER/LECTURER IN EDUCATION (Post 76/38) (SOCIAL SCIENCES METHODS)

Candidates should have high academic qualifications in History and/or Sociology, substantial teaching experience in a "development" situation and preferably experience in secondary teacher education.

LECTURER (PRELIMINARY) IN CHEMISTRY (Post 76/39)

Candidates should have teaching qualifications and experience at the Senior high school level to teach pre-degree courses in Chemistry. Appointees may be required to take part in the teaching of external courses by correspondence.

Salary scales: READER $F11,308-12,432 p.a. Senior Lecturer $F9,167-10,733 p.a. Lecturer $F6,741-9,065 p.a. Assistant Lecturer $F5,201-6,115 p.a. Lecturer (Preliminary) Grade II $F4,726 x 154-6,082 p.a. (£1 sterling = $F1.60). The British Government may supplement salaries of married appointees in range £372 p.a.-£882 p.a. sterling (under review and normally free of all tax) and provide children's education allowances and holiday visit passages. This supplementation is unlikely to apply in the case of an unmarried appointee, Assistant Lecturer or Lecturer (Preliminary) Grade II.

In addition the University provides 10% gratuity, superannuation contribution, appointment allowance, partly furnished accommodation at a maximum rental of 15% of salary. Appointments will be for a contract period of three years and will be renewable by mutual agreement. Candidates should send, quoting the above post reference, (six copies) detailed curriculum vitae, and naming three referees to the Registrar, the University of the South Pacific, GPO Box 1168, Suva, Fiji, to reach him no later than 9 July 1976. Applicants resident in UK should also send one copy to Inter-University Council, 90/91 Tottenham Court Road, London W1P 0DT. Further particulars are obtainable from either address.

THE UNIVERSITY OF THE SOUTH PACIFIC—FIJI

Applications are invited for the post of

LECTURER/ASSISTANT LECTURER IN EDUCATION (ENGLISH METHODS) (Post 76/40)

from September 1976 (or sooner). Candidates should have good academic qualifications in English and Education, substantial experience in the teaching of English as a second language and preferably experience in secondary teacher education. The appointee may be required to take part in the teaching of external courses by correspondence. Salary scales: Lecturer $F6741-9065 p.a. Assistant Lecturer $F5201-6361 p.a. (£1 sterling—$F1.60).
British Government may supplement salary of married appointee in range £372-£744 p.a. (tax free). In the case of Lecturer (under review and normally free of all tax) and provide children's education allowances and holiday visit passages. The supplementation is unlikely to be given to an unmarried appointee, or in the case of an Assistant Lecturer. In addition the University provides 10% gratuity, superannuation contribution, appointment allowance, partly furnished accommodation at a maximum rental of 15% of salary. Appointment will be for a contract period of three years and will be renewable by mutual agreement. Candidates should send, quoting the post reference (six copies), detailed curriculum vitae and naming three referees to the Registrar, the University of the South Pacific, GPO Box 1168, Suva, Fiji, to reach him no later than 30 June, 1976. Applicants resident in UK should also send one copy to Inter-University Council, 90/91 Tottenham Court Road, London W1P 0DT. Further particulars are obtainable from either address.

UNIVERSITY OF YORK

Department of Education

RESEARCH FELLOWSHIP

Applications are invited from Graduates for the above post tenable for three years from [illegible] 1976. The department is [illegible] a higher degree programme [illegible] which contains [illegible] projects and the person [illegible] will help teachers to research [illegible] evaluate these projects. Knowledge of case-study approaches in teaching and learning research [illegible] be particularly useful. There will be opportunities for the Research Fellow to teach in the department [illegible] his/her own research; and [illegible] register for a higher degree.
Salary scale £2,760 to £3,176 [illegible] USS.
Four copies of application, naming three referees, should be sent by Friday, 25th June 1976, to the Registrar, University of York, Heslington, York YO1 5DD, from whom further particulars may be obtained. Please quote reference number 6/6061

BIRMINGHAM

UNIVERSITY OF ASTON

DEPARTMENT OF MATHEMATICS

CONTRACT RESEARCH FELLOW

Applications are invited for the post of Postdoctoral Research Fellow [illegible] to participate in a programme of research based on [illegible] theoretical studies of [illegible] satellite orbits. The successful candidate will be engaged with Dr C. J. Brookes in cooperative project involving the University of [illegible] and [illegible] Research Establishment. The project is supported by the Science Research Council.

The salary will be in the range £3,370 to £3,556 per annum, plus superannuation benefits. Initial placing will be according to qualifications and experience. The appointment will be for a period of approximately three years and will be effective from 1 August, 1976, or as soon as possible thereafter.

Further details and application forms, which should be returned by 25 June, 1976, may be obtained from the Staff Officer, University of Aston in Birmingham, B4 7ET. Quote Ref. No. 120/156.

BIRMINGHAM

THE UNIVERSITY

TEMPORARY LECTURER IN SOVIET POLITICS in THE CENTRE FOR RUSSIAN AND EAST EUROPEAN STUDIES, DEPARTMENT OF POLITICAL SCIENCE

for the academic year 1976-77 to teach Soviet Politics in the Centre and to participate in teaching Comparative Politics in the Department.

Salary: £3,174 to £6,446 per annum plus superannuation.

Applications (three copies) naming three referees by 26 June, 1976 to Assistant Registrar (RS), University of Birmingham, Box 363, Birmingham B15 2TT, from whom further particulars and application forms may be obtained.

Universities continued

AUSTRALIA

MACQUARIE UNIVERSITY
Sydney

Applications are invited for appointment to the following positions. For positions tenable not before 1st January, 1977, it is hoped that the appointees will be able to take up duty by mid-February, 1977, in time for the commencement of the 1977 academic year in March.

SCHOOL OF BEHAVIOURAL SCIENCES

SENIOR LECTURER/LECTURER IN PSYCHOLOGY (tenable not before 1st January, 1977). Preference may be given to applicants with research interests and background in the area of cognitive processes combined with experience with the use of computers in the control and analysis of experiments.

LECTURER IN SOCIOLOGY (tenable not before 1st January, 1977). To develop coursework and research in social aspects of sexuality, sex roles, family structure, and sexual oppression; and take a major responsibility for sociology's contribution to women's studies.

SCHOOL OF LAW

SENIOR LECTURER/LECTURER IN LAW (tenable not before 1st January, 1977). The successful applicants will be required to take part in the planning and teaching of law courses at second and third year levels. It is hoped that they will be able to assume duties early in 1977. Although the positions are open to applicants with appropriate academic qualifications in law, it is hoped that at least one position will be filled by a person having an interest in commercial law.

SCHOOL OF MODERN LANGUAGES

SENIOR LECTURER/LECTURER IN CHINESE (tenable not before 1st July, 1977). The successful candidate will be expected to develop teaching within the field of modern Chinese language and literature within the School of Modern Languages. This is a new development within the school, where French and German are at present taught. It is expected that the teaching of Chinese will begin in 1978.

Salary ranges: Senior Lecturer $A17,689 to $A20,321; Lecturer $A12,838 to $A17,229 per annum.

Further information about the University and advice regarding the method of application should be obtained from the Association of Commonwealth Universities (Appts.), 36 Gordon Square, London WC1H 0PF, or from the Registrar, Macquarie University, North Ryde, New South Wales 2113, Australia.

Applications close on 9th July, 1976.

BATH

THE UNIVERSITY

RESEARCH OFFICER

SCIENCE STUDIES CENTRE

Applications are invited for the post of RESEARCH OFFICER to assist Professor S. Cotgrove in research on "The Environment, Values, and Alternative Futures", supported by a grant from the Social Science Research Council.

Applicants should have a substantial knowledge of sociology plus research experience and/or an appropriate higher degree. An ability to analyse survey data by computer an advantage.

The post is for three years at a starting salary of up to £3,582 per annum. It is hoped that the successful candidate can take up the appointment on October 1.

Application forms and further particulars from the Personnel Officer, University of Bath, Claverton Down, Bath, quoting reference number 76/76 THES.

Closing date will be June 21, 1976.

BATH

THE UNIVERSITY

SCHOOL OF ELECTRICAL ENGINEERING

LECTURER

Applications are invited for a LECTURER in the ELECTRONICS GROUP of the School. Applicants should normally hold, or be on the point of submitting for a Ph.D. degree, or be Chartered Engineers. Experience and proved research capability in radio communications is required, preferably at VHF or UHF.

Salary at the lower end of the scale £3,174 to £6,446, according to qualifications and experience.

Application forms and further particulars available from the Personnel Officer, University of Bath, Bath BA2 7AY quoting reference number THES76/74. Closing date: 30th June, 1976.

DURHAM

THE UNIVERSITY

PRINCIPAL OF ST. MARY'S COLLEGE

Applications are invited for the post of PRINCIPAL of St. Mary's College, which will become vacant on 30th September, 1977, on the retirement of Miss P. L. Calvert.

The salary will be within the scale £6,840 to £8,184 (increments of £336 every two years). It will be a condition of appointment that the Principal should live in a house or other suitable accommodation provided, free of rent, rates, heating and electricity, in the College grounds. The value of residential emoluments, currently assessed at £1,066, will be added to the salary for pension arrangements, making the total equal to the normal professorial scale.

It is hoped that the successful candidate will take an active part in the work of an academic department.

Applications (three copies) together with the names of three referees should be sent not later than 17th July 1976, to the Registrar and Secretary, Old Shire Hall, Durham DH1 3HP, from whom further particulars may be obtained.

BELFAST

THE QUEEN'S UNIVERSITY

LECTURESHIPS IN LAW

Applications are invited from suitably qualified candidates for TWO LECTURESHIPS in the FACULTY of LAW from 1st October, 1976, or such other date as may be arranged. One of the lectureships will be filled at any point on the scale for lecturers and the other will be filled at one of the first three points on the scale and will be subject to a period of probation of up to three years.

The salary scale is £3,174 to £6,447 with contributory pension rights under F.S.S.U./U.S.S. Initial placing on the scale will depend on qualifications and experience. Assistance is available with removal expenses.

Applications should be received by 30th June, 1976. Further particulars may be obtained from the Personnel Officer, The Queen's University of Belfast, BT7 1NN, Northern Ireland (please quote Ref. 76/THES).

MIDDLESEX

BRUNEL UNIVERSITY

Uxbridge, Middlesex

PROFESSOR OF PSYCHOLOGY

The University is appointing a PROFESSOR to its Chair of PSYCHOLOGY to succeed Professor D. Miller. The Professor will be Head of the well-established Department of Psychology in the School of Social Sciences. The successful applicant will be expected to promote teaching and research in a lively department within a large and broadly based school. It is hoped that he or she would be free to take up duties on 1 January, 1977.

Salary related to qualifications and experience within the professorial range, with a minimum of £7,827 per annum, plus £450 per annum London Allowance with contributory pension rights under FSSU/USS.

Further details are available from Assistant Secretary (Establishment), Brunel University, Uxbridge, Middlesex, or telephone Uxbridge 37188 extension 49. The closing date for applications is 30th June, 1976.

BRISTOL

THE UNIVERSITY

SCHOOL OF EDUCATION

TEACHER INDUCTION PROJECT

This project is funded by the Department of Education and Science, to inform, promote and co-ordinate the national monitoring and dissemination aspects of a variety of teacher induction pilot schemes in England and Wales, including the two funded schemes in Liverpool and Northumberland.

Applications are invited for the post of Research Associate in the project team, which is based in the School of Education Research Unit in Bristol.

Applicants should have experience of schools and teacher education. An interest in action research, case study methods and the preparation of dissemination materials would be particularly welcomed.

Salary range will be £3,174 to £3,418 per annum; starting point according to age, qualifications and experience. The appointment will be for two years only and will be made from August 1st, 1976, or as soon after as possible; secondment should be possible in appropriate circumstances.

Applications, giving details of qualifications and experience, and names and addresses of three referees should be sent by 23rd June, 1976 to The Secretary, University of Bristol, Senate House, Bristol BS8 1TH (Ref. E.B.), from whom further particulars can be obtained.

BRISTOL

THE UNIVERSITY

DEPARTMENT OF ENGLISH

Applications are invited for a LECTURESHIP in ENGLISH to teach LITERATURE from the RENAISSANCE ONWARDS; preference for 16th, 17th or 18th Century interests. The appointment will date from 1st January, 1977, or from as soon after that date as possible. Commencing salary within the range £3,174 to £5,214 per annum according to age, qualifications and experience.

Applications, together with the names of three referees, should be sent by 7th July, 1976, to the Secretary, University of Bristol, Senate House, Bristol BS8 1TH, from whom further particulars may be obtained (please quote reference EB).

BRISTOL

THE UNIVERSITY

DEPARTMENT OF MATHEMATICS

Applications are invited for the post of TEMPORARY LECTURER IN APPLIED MATHEMATICS for the session 1976-77, tenable from August 1, 1976 or such later date as may be agreed up to October 1, 1976. The salary will be £3,174—£3,378-£3,582 per annum according to age, qualifications and experience.

Further particulars may be obtained from the Secretary, University of Bristol, Senate House, Bristol BS8 1TH, to whom applications should be sent by July 2, 1976. (Please quote reference EB.)

EDINBURGH

THE UNIVERSITY

DEPARTMENT OF HISTORY

Applications are invited for the post of LECTURER in MEDIEVAL and/or RENAISSANCE HISTORY in the above Department. Preference will be given to candidates with a primary interest in the History of Ideas.

Salary scale £3,174-£6,447 per annum, with initial placement not exceeding £3,786 per annum.

Applications (three copies) including the names of two referees, should be submitted to the Secretary to the University, Old College, South Bridge, Edinburgh EH8 9YL, not later than 30th June 1976. Please quote reference 1033.

EDINBURGH

THE UNIVERSITY

ADMINISTRATIVE ASSISTANT

Applications are invited for the post of ADMINISTRATIVE ASSISTANT (Grade IA) in the Secretary's Office. Candidates should preferably hold, or expect to obtain this summer, a good honours degree in any subject; or a degree in Law; or a comparable professional qualification in a relevant field. The successful candidate will carry out general duties under the immediate direction of the Secretary to the University and the Deputy Secretary.

Initial appointment will be made according to qualifications and experience on the salary scale £2,766 to £5,418 per annum, with superannuation under U.S.S. The post is tenable from 1st October, 1976, or earlier by arrangement.

Further particulars of the post may be obtained from the Secretary to the University, Old College, South Bridge, Edinburgh EH8 9YL, to whom applications (four copies), together with the names of two referees, should be sent not later than 23rd June, 1976. Please quote reference 1002.

EDINBURGH

THE UNIVERSITY

DEPARTMENT OF ACCOUNTING AND BUSINESS METHOD

LECTURER

Applications are invited for an additional post of Lecturer in this Department.

It would be useful if candidates' teaching interests related to the management accounting and/or business finance areas, but applications from persons with interests in other areas of accounting will be considered.

Applicants should be graduates and preferably, though not necessarily, should possess an accountancy qualification (either professional or industrial).

Salary scale £3,174 to £6,447 per annum, with superannuation.

Further particulars may be obtained from the Secretary to the University, Old College, South Bridge, Edinburgh, EH8 9YL, to whom applications including the names of two referees, should be sent by 21st June, 1976. Please quote reference 1031.

EXETER

THE UNIVERSITY

DEPARTMENT OF GERMAN

Applications are invited for a TUTORSHIP tenable from 27th September 1976. Tenure is for one year. Preference will be given to candidates completing a postgraduate degree and specialising in some area of German Literature since 1700.

Salary: £2,766 per annum.

Further particulars may be obtained from the Administrative Officer (Staffing), University of Exeter, Exeter EX4 4QJ, to whom applications should be forwarded (three copies, overseas candidates one copy) together with the names of three referees not later than 2nd July 1976. Please quote reference no. 1/10a/7114.

EXETER

THE UNIVERSITY

DEPARTMENT OF ENGLISH

Applications are invited for the following posts:—

Temporary LECTURER in AMERICAN LITERATURE (ref. 1/10a/3131). This post is tenable for one year from 1st October, 1976, until 30th September, 1977. An interest in 19th Century American fiction would be an advantage. Salary will be the first point of the Lecturer's Scale, £3,174 per annum.

TUTOR (ref. 1/10a/7113). This post will relate primarily to MEDIEVAL LITERATURE and is tenable for one year from 1st October, 1976, with the possibility of renewal for a further year. Salary £2,766 per annum.

Further particulars for both posts from the Administrative Officer (Staffing), University of Exeter, Exeter EX4 4QJ, to whom applications (eight copies for Lecturer post, three copies for Tutorial post; overseas candidates one copy) should be sent by 28th June, 1976.

GLASGOW

THE UNIVERSITY

DEPARTMENT OF MANAGEMENT STUDIES

TWO LECTURESHIPS IN MANAGEMENT STUDIES

Applications are invited for these posts which carry responsibilities for teaching and research in Management Studies in the University of Glasgow Division of the Scottish Business School. It would be desirable for applicants to have interests in Marketing or Financial Management.

The salary will be within the range £3,174-£4,602 per annum of the Lecturers' scale of £3,174-£6,446 per annum. Appropriate Superannuation Scheme will apply.

Further particulars may be had from the Secretary of the University Court, (Room 18), The University of Glasgow, Glasgow G12 8QQ, with whom applications (8 copies) giving the names and addresses of three referees, should be lodged on or before 21st June, 1976.

In reply please quote Ref. No. 3708/DD.

HONG KONG

THE UNIVERSITY

CHAIR OF PHILOSOPHY

Applications are invited for the University's first Chair of Philosophy which is to be established from September, 1976.

Annual salary (superannuable) will be within the professorial range which has a minimum of HK$106,840 (£1 equals HK$9.00 approximately).

Further particulars and application forms may be obtained from the Secretary General, Association of Commonwealth Universities (Appts.), 36 Gordon Square, London WC1H 0PF, or the Assistant Secretary (Recruitment), University of Hong Kong, Hong Kong.

Closing date for applications is July 10, 1976.

EDINBURGH

THE UNIVERSITY

CAREERS ADVISER

Applications are invited for the post of Careers Adviser in the Careers and Appointments Advisory Service. The main responsibility, shared with three Careers Advisers in post, will be to students in the Faculties of Arts and Social Sciences. The person appointed, man or woman, must be a graduate of a British University, age preferably between 25 to 35, with relevant experience in one or more fields of graduate employment. A diploma in Careers Guidance, or experience in advisory and counselling work, would be an advantage but this is not essential.

Salary Scale: £3,174 to £5,418 per annum. Starting salary will be according to age, qualifications and experience.

Applications, by letter (three copies) should be sent together with the names of two referees to the Secretary to the University, Old College, South Bridge, Edinburgh EH8 9YL from whom further particulars may also be obtained. The closing date for applications is 28th June 1976. Please quote reference 4,007.

HULL

THE UNIVERSITY

TEMPORARY LECTURER IN ELECTRONIC ENGINEERING

A temporary lectureship is offered for the session 1976/77 only. The person appointed must be able to immediately give lectures in the course for B.Sc. in electronic engineering but there is some flexibility in the choice of topics.

Salary within the range £3,174 to £3,582 per annum.

Applications (five copies) giving details of age, qualifications and experience, together with the names of three referees to be sent by 28th June, 1976, to the Registrar, The University of Hull, HU6 7RX, from whom further particulars may be obtained.

IRELAND

UNIVERSITY COLLEGE GALWAY

ASSISTANTSHIP IN HISTORY

Applications are invited for this full-time post which is for one year only. Salary £3,293 plus marriage and family allowances. The closing date for the receipt of applications is 9th July, 1976. Further information from the Registrar.

LAMPETER

ST. DAVID'S UNIVERSITY COLLEGE

TEMPORARY TUTOR IN GERMAN

Applications are invited for the post of Tutor in German for the period 1st October, 1976, to 30th September, 1977. The special field will be Middle High German with some language teaching.

Salary on scale for Research Assistants (1B).

Applications to Academic Registrar. Closing date 25th June.

LANCASTER

THE UNIVERSITY

DEPARTMENT OF SOCIOLOGY

Applications are invited from men and women for a post of LECTURER in SOCIOLOGY tenable from 1st October, 1976. Candidates specialising in any branch of Sociology will be considered.

Salary on the scale £3,174 to £6,446.

Further particulars may be obtained (quoting reference L37) from the Establishment Officer, University House, Lancaster LA1 4YW, to whom applications (five copies), naming three referees, should be submitted by 30th June, 1976.

LEICESTER

THE UNIVERSITY

DEPARTMENT OF SOCIOLOGY

Applications are invited from suitably qualified candidates for a LECTURESHIP in the Department of SOCIOLOGY with effect from 1 October, 1976.

Salary according to qualifications and experience on the scale £3,174 to £6,446 a year with superannuation benefits.

Further particulars from the Registrar to whom applications on the form provided should be sent by 21 June, 1976, quoting reference TH/SOC.

LEICESTER

THE UNIVERSITY

DEPARTMENT OF PHYSICS

LECTURESHIP IN THEORETICAL PHYSICS

Applications are invited for a post of Lecturer in Theoretical Physics tenable from 1 October, 1976. Applicants should have at least three year's post-graduate research experience in the theoretical study of condensed matter physics. Preference will be given to candidates with interests in surface physics or the physics of liquids.

Salary on lower half of scale £3,174-£6,446 with superannuation benefits.

Further particulars and forms from the Registrar, to whom applications should be sent by 9th July 1976 quoting reference TH.P.Th.

LEICESTER

THE UNIVERSITY

DEPARTMENT OF PHYSICS

LECTURESHIP IN PHYSICS

Applications are invited for a post of Lecturer in Physics tenable from 1st October 1976. Applicants should have at least three years post-graduate research experience in a field relevant to the department's current X-ray Astronomy programme. Preference will be given to an Experimental Physicist or Astronomer.

Salary on lower half of scale £3,174 to £6,446 with superannuation benefits.

Further particulars and forms from the Registrar, to whom applications should be sent by 9th July 1976, quoting reference Ph.T.H.

LEEDS

THE UNIVERSITY

WARDENSHIP OF WEETWOOD HALL

Applications are invited from women candidates for the post of WARDEN of WEETWOOD HALL. Weetwood Hall is one of the university's halls of residence for women and has accommodation for 87 students. Preference will be given to a candidate with previous university research or teaching experience and the successful candidate will be expected to undertake some duties in a university department relevant to her field of interest.

The commencing salary will be at a point within the range £3,174 to £6,446, deduction, currently £250 a year, will be made in respect of accommodation, with fuel, light and heating; meals will be provided for the Warden and official guests in the hall dining room.

The appointment will become effective at a date to be arranged with the successful candidate, but it is hoped an appointment can be made as soon as possible. The period of appointment is open to negotiation.

Further particulars may be obtained from the Registrar, The University, Leeds LS2 9JT, to whom applications (two copies), stating age, qualifications and experience, together with the names of three referees, should be returned by July 6, 1976.

LEICESTER

THE UNIVERSITY

LECTURESHIP/SENIOR LECTURESHIP IN PSYCHOLOGY

Applications are invited from graduates for a Lectureship or Senior Lectureship in Psychology tenable from 1 January 1977. Applicants should have active research interests. This post is additional to the Lectureship recently advertised.

Salary according to qualifications and experience on the scale £3,174-£6,446 for Lecturers and £6,231-£7,742 for Senior Lecturers, with superannuation benefits.

Further particulars and application forms may be obtained from the Registrar, to whom applications should be sent by 16 July 1976 quoting reference TH/SL2. Applicants for the earlier lectureship need not formally re-apply but should inform the Registrar if they also wish to be considered for the present post.

LEICESTER

THE UNIVERSITY

TUTORIAL ASSISTANTSHIP DEPARTMENT OF GEOGRAPHY

Readvertisement

Applications are invited from men and women GRADUATES with interests in Human Geography for a TUTORIAL ASSISTANTSHIP in the DEPARTMENT OF GEOGRAPHY.

Salary on scale £2,628 to £2,766 to £2,970.

Further particulars from the Registrar, to whom applications should be sent by June 30, 1976.

LONDON

THE UNIVERSITY

INSTITUTE OF EDUCATION

AUDIO-VISUAL TECHNICIAN

The Institute of Education is shortly moving to a new building where an audio-visual technician is required, whose duties will include:

(1) Servicing and maintaining a new language laboratory.
(2) Supervising a tape library for use in the laboratory.
(3) Transferring and recording sound tapes.
(4) Transferring and playing back video tapes.

The person appointed should have had experience working with language laboratories and be willing to operate sound and video equipment. The job will also involve work with students. The post is graded as Technician 3B, salary scale £2,178 to £2,490 plus £450 London weighting plus superannuation.

Please send details of your experience and qualifications with name and address of one referee to the Secretary, University of London Institute of Education, Malet Street, London WC1E 7HS, quoting reference T/BTL.

LONDON

UNIVERSITY COLLEGE

DEPARTMENT OF FRENCH LANGUAGE AND LITERATURE

TEMPORARY LECTURER

Applications are invited for the post of TEMPORARY LECTURER in the Department of FRENCH LANGUAGE and LITERATURE for one year, commencing 1 October 1976. Preference will be given to candidates working in the field of 19th century literature, although applications are invited from scholars working in any field of literature since 1600. Salary on scale £3,174 to £6,446 plus £450 London Allowance; Universities Superannuation Scheme if appropriate.

Applications by 24 June, 1976, to Assistant Secretary (Personnel), University College London, Gower St., London, WC1E 6BT, from whom further particulars may be obtained.

MANCHESTER

THE UNIVERSITY

DEPARTMENT OF LIBERAL STUDIES IN SCIENCE

Applications are invited for ONE post of LECTURER and ONE post of TEMPORARY LECTURER (tenable for one year) in the above Department which teaches undergraduate and postgraduate courses in the social, economic, and political relations of science and technology. Preference may be given to candidates with teaching and/or research experience in economic aspects of technology or social issues of the life sciences. Initial salary for Lectureship appointment will be in the range £3,174 to £3,786 per annum and the salary range for the Temporary Lectureship £3,174 to £6,447 per annum. Superannuation.

Further particulars and application forms (returnable by June 11th) from the Registrar, The University, Manchester M13 9PL. Quote reference: 97/76/THES.

MANCHESTER

THE UNIVERSITY

LECTURER/TEMPORARY LECTURER IN ENGLISH LANGUAGE AND LITERATURE

Applications are invited for this post from candidates with interests in Old and Middle English or Linguistics. If a temporary appointment is made, it will be for one year. Initial salary per annum: £3,174 to £3,786. Superannuation.

Particulars and application forms (returnable by June 18th) from the Registrar, The University, Manchester, M13 9PL. Quote reference 100/76/THES.

MANCHESTER

THE UNIVERSITY

DEPARTMENT OF EXTRA-MURAL STUDIES

STAFF TUTOR IN INDUSTRIAL RELATIONS

Applications are invited for this post, vacant from October 1st. Applicants should have good academic qualifications in appropriate subject areas and teaching experience. The appointee will organise and teach courses run in conjunction with the W.E.A., T.U.C., government agencies, industrial firms and trade unions. Salary range per annum: £3,174 to £6,447. Superannuation.

Particulars and application forms (returnable by June 28th) from the Registrar, The University, Manchester M13 9PL. Quote reference 101/76/THES.

MANCHESTER

THE UNIVERSITY

LECTURER IN NUMERICAL ANALYSIS

Applications invited for this post tenable from October 1st, or as soon as possible thereafter. Initial salary range per annum £3,174 to £3,786. Superannuation.

Further particulars and application forms (returnable by June 28th) from the Registrar, The University, Manchester, M13 9PL. Quote ref.: 111/76/T.H.E.S.

MANCHESTER

THE UNIVERSITY

CAREERS AND APPOINTMENTS SERVICE

Applications invited from GRADUATES with good and varied employment experience for the post of ASSISTANT SECRETARY. Some preference may be given to a physical scientist, but the case load of students to be served can be adjusted to suit the appointee. Age preferably 28-38. Salary per annum £3,174-£6,447. Superannuation.

Particulars and application forms (returnable by June 21st) from the Registrar, The University, Manchester M13 9PL. Quote ref: 107/76/THES.

MIDDLESEX

BRUNEL UNIVERSITY

DEPARTMENT OF POLYMER SCIENCE AND TECHNOLOGY

LECTURER

Applications are invited for the post of LECTURER in MATERIALS to teach the properties, selection and applications of materials to students preparing for degrees in Materials Science and Technology.

The successful candidate should have a good first degree in the general area of applied physics or chemical engineering, and should have relevant industrial and teaching experience. Special interest or experience in any of the following fields would be an advantage: ceramics, glass, composite materials, cement and concrete, building materials.

Salary according to age, qualifications and experience, within the Lecturer Scale, £3,174 to £6,446, plus £450 London Allowance, with FSSU/USS benefits.

Write for further particulars and application form to Assistant Secretary (Establishment), Brunel University, Uxbridge, Middlesex UB8 3PH, or telephone Uxbridge 37188, extension 49. Closing date 30th June.

NEW ZEALAND

UNIVERSITY OF OTAGO

FACULTY OF MEDICINE

THE CHRISTCHURCH CLINICAL SCHOOL
Christchurch, New Zealand

LECTURER OR SENIOR LECTURER IN CLINICAL PSYCHOLOGY

Applications are invited for the new position of LECTURER/SENIOR LECTURER in CLINICAL PSYCHOLOGY within the Department of Psychological Medicine, the Christchurch Clinical School, University of Otago.

The successful candidate's major commitment will be in the teaching of undergraduate students in medicine and postgraduate students in psychiatry, and in research. A broad knowledge of psychological theory and research methodology will be considered essential as will experience with the techniques of behaviour therapy, individual, group, and family psychotherapy. As the main focus of teaching and research is to be in the clinical areas, the candidate will be expected to have had clinical experience and will be required to engage in some clinical work.

Salary according to qualifications and experience within the following scales: Lecturer NZ$8,300 to $10,360; Senior Lecturer NZ$10,529 to $13,392 with a bar at $12,245 per annum.

Particular enquiries concerning the position may be addressed to Professor K. S. Adam, Department of Psychological Medicine, Christchurch Clinical School, Christchurch Hospital, Christchurch, New Zealand.

Conditions of appointment and application procedure should be obtained from the Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF.

Applications close on 15th July, 1976.

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Universities continued

NOTTINGHAM
THE UNIVERSITY
DEPARTMENT OF MECHANICAL ENGINEERING

Applications are invited for a LECTURESHIP in MECHANICAL ENGINEERING. Preference will be given to candidates with a first-class honours degree in Mechanical Engineering and some industrial experience, or with a Ph.D. Candidate's main field of interest should be solid mechanics or thermo-fluids. Duties will lie in the normal academic range.

The salary scale for Lecturers is currently £3,174 to £4,794.

Application forms and further particulars are obtainable from the Staff Appointments Officer, University of Nottingham, University Park, Nottingham, quoting reference number 301. Closing date, 30th June, 1976.

OXFORD
THE UNIVERSITY
UNIVERSITY LECTURESHIP (half-time) in APPLIED SOCIAL STUDIES

For three years from 1 October 1976 (or later by arrangement) without any promise expressed or implied of renewal thereafter, on behalf of scale £3,174 to £6,078. The person appointed will be expected to take part in teaching the principles and practice of social work.

Applications to the Director, Department of Social and Administrative Studies, Little Clarendon Street, Oxford OX1 2ER by 20 June.

OXFORD
THE UNIVERSITY
UNIVERSITY LECTURESHIP IN ISLAMIC PHILOSOPHY

The University proposes to appoint a LECTURER in ISLAMIC PHILOSOPHY to hold office from 1 October, 1976. The stipend will be fixed according to age on the scale £3,174 to £6,078.

The appointment will be in association with a fellowship at St. Cross College: further particulars may be obtained from the Secretary, Oriental Institute, Pusey Lane, Oxford OX1 2LE.

SALFORD
THE UNIVERSITY
DEPARTMENT OF MATHEMATICS
RESEARCH FELLOW OR LECTURER IN COMPUTER SCIENCE

Applications are invited for this post tenable from 1 October, 1976, or such earlier date as may be arranged. Fellowships are tenable for two years in the first instance. Applicants with suitable experience may be considered for appointment to a lectureship.

Applicants should possess, or shortly expect to obtain a postgraduate qualification in Computer Science. Preference will be given to applicants whose research interests are related to the fields of information structures, simulation techniques or communication networks. An interest in business systems would be an added qualification.

Salary on scale: £3,174 to £6,446 per annum. U.S.S./F.S.S.U.

Further particulars and application forms may be obtained from the Registrar, University of Salford, Salford M5 4WT, Lancs, to whom completed applications should be returned by 2 July, 1976, quoting reference number MA/146/TH.

ST. ANDREWS
THE UNIVERSITY
DEPARTMENT OF ZOOLOGY

Applications are invited for THREE POSTDOCTORAL RESEARCH ASSISTANTSHIPS in the Zoology Department, financed by an S.R.C. grant to Professor H. G. Callan and Dr. J. Sommerville. Applicants should preferably have some training in molecular biology, though this is not essential. The field in which successful applicants will be expected to work is the organization of chromosomes in regard to transcription and replication.

All three posts are vacant as from 1st September, 1976, and are tenable in the first instance for two years, with a possibility of extension. Starting salary at appropriate point within range £3,174 to £3,882.

Applications, including the names of two referees, should be sent to the Secretary, Zoology Department, University of St. Andrews, Fife KY16 9TS, Scotland, not later than 30th June, 1976.

SHEFFIELD
THE UNIVERSITY
RESEARCH ASSISTANT SUB-DEPARTMENT OF MEDICAL GENETICS

Applications are invited from men and women for the above post tenable from 1st October, 1976, for one year renewable for two further years to take part in research into developmental genetics, with particular respect to man. The post is suitable for a graduate in the Biological Sciences, either with research experience or recently graduated. Those expecting to graduate this summer may apply.

Initial salary in range £2,766 to £3,378 on R. and A. Range IA, which rises to £3,990.

Particulars from the Registrar and Secretary, The University, Sheffield S10 2TN, to whom applications (3 copies), including the names and addresses of two referees and outline of particular research interests, should be sent by 10th July, 1976. Quote Ref. R.421/DI.

SHEFFIELD
THE UNIVERSITY
LECTURER IN VIROLOGY

Applications are invited from suitably qualified men and women for the above established post in the Academic Division of Pathology, financed by the Yorkshire Cancer Research Campaign. The successful candidate will be required to help in the teaching of Virology to Medical and Science students, and should have a research interest, and preferably experience, in investigations of the viral aetiology of cancer.

Initial Salary Ranges: Clinical: £3,744 to £4,660 (scale rises to £6,072); Non-Clinical: £3,174 to £3,786 (scale rises to £6,446).

Applications (eight copies), including the names and addresses of three referees, should be sent to the Registrar and Secretary, The University, Sheffield S10 2TN by 5 July, 1976, from whom further particulars can be obtained. Quote ref.: R426/DI.

SHEFFIELD
THE UNIVERSITY
DEPARTMENT OF CERAMICS, GLASSES AND POLYMERS

Applications are invited from men and women for a SRC POST-DOCTORAL RESEARCH ASSISTANTSHIP to work on possible use of lithium glasses as the solid state electrolyte in storage batteries under Dr. J. O. Isard and Professor H. Rawson. The successful applicant will be required to investigate the technology of drawing tubing from special glasses showing high lithium ion mobility and to measure both the electrical properties and the resistance to corrosion by molten salts and metals. Graduate in one of the physical sciences or in engineering required but experimental ingenuity will be as important as a sound theoretical background; previous research experience essential. Tenable as soon as possible until 31 March, 1979. Initial salary £3,174 on R & A Range 1A.

Further information from Dr. J. O. Isard, Department of Ceramics, Glasses and Polymers, University of Sheffield, Elmfield, Northumberland Rd., Sheffield S10 2TZ, to whom applications with the names and addresses of two referees should be sent by 9 July, 1976. Quote ref.: R.427/DI.

SHEFFIELD
THE UNIVERSITY
DEPARTMENT OF PSYCHOLOGY

Applications are invited from men and women for a LECTURESHIP in PSYCHOLOGY from 1 October, 1976. Applicants should have research experience and interests in animal behaviour and ethology. Candidates with a special interest in neuro-ethology are encouraged to apply. The Department has recently occupied a purpose-built new building which is well equipped and has excellent laboratory and computing facilities. Initial salary in the range of £3,174 to £3,786 on scale rising to £6,446 with superannuation.

Applications together with the names and addresses of two referees should be sent as soon as possible and by 5 July 1976, to the Registrar and Secretary, University of Sheffield, Sheffield S10 2TN, from whom further particulars may be obtained. Quote ref.: R 428 DI.

SOUTHAMPTON
THE UNIVERSITY
DEPARTMENT OF MATHEMATICS

Applications are invited for the post of LECTURER in NUMERICAL ANALYSIS in the Department of Mathematics. Candidates should have a strong research background in modern aspects of numerical analysis, digital programming, and an interest in applications in the fields of science and engineering. Salary scale: £3,174 to £6,447 per annum. The initial salary will depend on qualifications and experience.

Further particulars may be obtained from D. A. S. Copland, The University, Southampton SO9 5NH to whom applications (seven copies for United Kingdom applicants) should be sent no later than June 18, 1976, quoting reference number 487/A/THES.

SOUTHAMPTON
THE UNIVERSITY
SHIP SCIENCE
RESEARCH ASSISTANT

A vacancy exists in the sub-department of Ship Science for a Research Assistant to work on the problem of the prediction of ship motions by computer. Particular interest centres on the prediction of ship rolling and the long-term statistics of ship motions.

Applicants should have a good Honours Degree in Applied Mathematics or Naval Architecture.

The appointment will be made on the salary scale £2,766 to £3,990 and is for a period of two years.

Applicants should write to Professor of Ship Science for further details and applications should be sent to D. A. S. Copland, University of Southampton SO9 5NH before the closing date of 9th July 1976, quoting reference 488/R/THES.

STRATHCLYDE
THE UNIVERSITY

Applications are invited for a LECTURESHIP in MATHEMATICS in the Department of Mathematics.

Preference will be given to applicants in the area of applied analysis, particularly in the field of partial differential equations.

Salary scale: £3,174 to £6,446, with superannuation benefit. Placing according to qualifications and experience.

Application forms and further particulars (quoting 53/76) may be obtained from the Registrar, University of Strathclyde, Royal College Building, 204 George Street, Glasgow G1 1XW, with whom applications should be lodged by 30th June, 1976.

SURREY
THE UNIVERSITY
DEPUTY ACADEMIC REGISTRAR

Applications are invited for this post tenable as soon as possible.

Applicants, probably within the age range 30 to 40 years, should have considerable and appropriate experience in a University. The appointment will be made at Grade II, £5,214 to £6,447 or Grade III, £6,234 to £7,743, according to the experience and calibre of the applicant.

Further particulars may be obtained from the Academic Registrar, (LT/C), University of Surrey, Guildford, Surrey GU2 5XH, or telephone Guildford 71281, Ext. 482, and to whom applications should be sent in the form of a curriculum vitae, including the names and addresses of three referees by 2nd July, 1976.

WESTERN AUSTRALIA
THE UNIVERSITY
Perth
COMPUTER SCIENCE

Applications are invited for appointment as SENIOR LECTURER and LECTURER in the department of COMPUTER SCIENCE. The university has recently established this new department and appointed Dr. J. S. Rohl, at present Professor of Computation in the University of Manchester, as its Foundation Professor and Head of Department. The Department will accept its first undergraduate and postgraduate students in March, 1977.

The department will concern itself with the heart of Computer Science—programming. Candidates for the two posts should have interests in any of the core areas: computational structures, programming languages, analysis of algorithms, program proving, automata, language implementation (compilers), computer systems and networks, and parallel processing (operating systems).

The salary ranges are: Senior Lecturer, $A17,569 to $A20,421 per annum; Lecturer, $A12,835 to $A17,339 per annum. Benefits include superannuation similar to F.S.S.U., fares to Perth for appointee and dependent family, removal allowance, study leave and long service leave and housing loan scheme. Further information may be obtained from the Staffing Officer.

Prospective applicants may contact Professor Rohl at the University of Manchester Institute of Science and Technology (telephone: 061-236 3311, ext. 2261). Applications in duplicate, stating full personal particulars, qualifications and experience should reach the Staffing Officer, University of Western Australia, Nedlands, Western Australia, 6009, by July 31, 1976. Candidates should request three referees to write immediately to the Staffing Officer.

WESTERN AUSTRALIA
THE UNIVERSITY
Perth
LECTURESHIP IN PSYCHOLOGY

Applications are invited for a LECTURESHIP in PSYCHOLOGY (Developmental Psychology). The position is a specialised one and preference will be given to applicants with teaching and research skills and experience in the area of developmental (child) psychology. A Child Study Centre is attached to the Department of Psychology and excellent research facilities are available.

The salary range for a Lecturer is $A12,835 to $17,339 per annum. Benefits include superannuation similar to F.S.S.U., fares to Perth for appointee and dependent family, removal allowance, study leave and long service leave and housing loan scheme. Further information is available from the Staffing Officer.

Applications in duplicate stating full personal particulars, qualifications and experience should reach the Staffing Officer, University of Western Australia, Nedlands, Western Australia, 6009, by 3rd July, 1976. Candidates should request three referees to write to the Staffing Officer.

WEST SUSSEX
(WESTERN AREA)
BOGNOR REGIS COLLEGE OF EDUCATION
a foundation college of the proposed WEST SUSSEX INSTITUTE OF HIGHER EDUCATION

LECTURER II/SENIOR LECTURER required to teach HISTORY September, 1976, or January, 1977. Initially appointment will be temporary with possibility of permanent appointment.

Successful candidate will be expected to participate in general teaching programme of History Department and to specialize in nineteenth-century history to degree level. Interest in local or social history and/or education and research experience essential.

Residence available.

Further details and application form from the Academic Registrar, College of Education, Upper Bognor Road, Bognor Regis, Sussex.

Applications should be returned not later than 3rd July, 1976.

WALES
THE UNIVERSITY
UNIVERSITY COLLEGE OF SWANSEA
DEPARTMENT OF GEOGRAPHY

Applications are invited for TUTORSHIPS in the Department of Geography to assist with tutorial groups involving small groups of students and to provide assistance in practical map classes.

The appointments, which are tenable from October 1, 1976, are for one year in the first instance. The salary will be on the scale, up to £3,882 per annum, together with U.S.S./F.S.S.U. benefits.

Further particulars may be obtained from the Registrar/Secretary, University College of Swansea, Singleton Park, Swansea SA2 8PP, to whom they should be returned by Wednesday, June 30, 1976.

WALES
THE UNIVERSITY
UNIVERSITY COLLEGE OF SWANSEA
CHAIR OF DEVELOPMENT POLICY AND PLANNING

The Council of the College invites applications for the appointment of a PROFESSOR of DEVELOPMENT POLICY and PLANNING in the Centre for Development Studies which is being established from October 1, 1976.

Further particulars may be obtained from the Registrar/Secretary, University College of Swansea SA2 8PP, to whom applications (10 copies) should be returned by Friday, July 23, 1976.

LAMPETER
SAINT DAVID'S UNIVERSITY COLLEGE
ADMINISTRATIVE ASSISTANT

Applications are invited from GRADUATES, preferably with some experience of university administration, for the post of ADMINISTRATIVE ASSISTANT in the Academic Registrar's Office. Duties to commence September 1.

Salary on Scale 1A for administrative staff. F.S.S.U. or U.S.S. membership.

Further particulars and application forms from the Academic Registrar, Saint David's University College, Lampeter SA48 7ED. Closing date: June 30, 1976.

Fellowships and Studentships

ABERDEEN
THE UNIVERSITY
S.S.R.C. STUDENTSHIPS

The University of Aberdeen invites applications from suitably qualified GRADUATES with good Honours degrees for S.S.R.C. quota awards tenable for the M.Litt. in Economics of Natural Resources and for research in the following departments:

ECONOMIC HISTORY.
INSTITUTE FOR THE STUDY OF SPARSELY POPULATED AREAS.
GEOGRAPHY.
POLITICAL ECONOMY.
POLITICS.
SOCIOLOGY.

Persons wishing to be considered for nomination to these awards should communicate as soon as possible with the head of the department concerned, King's College, Aberdeen.

EXETER
THE UNIVERSITY
RESEARCH STUDENTSHIP IN ANALYTICAL CHEMISTRY

Applications are invited from graduates (B.Sc. or M.Sc.) in Chemistry, Polymer Science or Chemical Engineering. The project will investigate the products of low temperature pyrolysis and pyrolysis-analysis of polymeric materials used in aircraft construction.

Tenure is for one year, renewable annually up to three years and the candidate will be expected to read for a Ph.D. degree.

Salary will be on the S.R.C. U.K. Resident rate, currently £1,080 per annum (£790 per annum if living in parental home).

Further particulars may be obtained from the Administrative Officer (Staffing), University of Exeter, Exeter EX4 4QJ, to whom applications should be forwarded together with the names of two referees not later than 30th July, 1976. Please quote reference No. 1/10/7118.

LONDON
THE UNIVERSITY
BEDFORD COLLEGE
Regent's Park, London, NW1 4NS

A number of RESEARCH STUDENTSHIPS in the first instance for the 1976-77 session will be available as from October, 1976 for work leading to a higher degree in Chemistry. Applications are invited from candidates who have an honours degree in Chemistry, Biochemistry or Microbiology or a joint honours degree in Chemistry and another subject.

Applications with details of age, qualifications and experience to be sent to the Assistant Secretary (Personnel), telephone 01-486 4400, ext. 312.

LONDON
TWO MUSEUMS ASSOCIATION POSTGRADUATE STUDENTSHIPS

In all aspects of curatorship, tenable for 18 months to 2 years, are offered at the Victoria and Albert Museum. Successful candidates will be under 28 years of age and must apply to their Local Educational Authority for grants.

Full details and application forms may be obtained from the Museums Association, 87 Charlotte Street, London W1P 2BX. Please enclose stamped addressed envelope.

HULL
THE UNIVERSITY
DEPARTMENT OF APPLIED MATHEMATICS
S.R.C. RESEARCH STUDENTSHIP

Applications are invited from prospective research students wishing to undertake work under the supervision of Dr. R. Shaw in the general area of Group Theory and Quantum Mechanics. Candidates should have an interest in applying various branches of modern mathematics to relativistic and non-relativistic quantum mechanics. Candidates will be expected to read for a Ph.D. degree. An S.R.C. Research Studentship is available under the usual conditions.

Another major interest of the department is the Quantum Theory of Scattering, and applications to undertake work in this area will also be considered.

Applications, giving the names of two referees, should be sent to Dr. R. Shaw, Department of Applied Mathematics, The University of Hull, Hull HU6 7RX.

UNIVERSITY OF EAST ANGLIA
CENTRE FOR APPLIED RESEARCH IN EDUCATION
Director LAWRENCE STENHOUSE

SSRC STUDENTSHIPS

Applications are invited from those interested in studying for a one year taught M.A. in Applied Research in Education, or for a degree of M.Phil or Ph.D., by research, starting October 1976. A limited number of SSRC studentships are available. Applicants for studentships should have, or expect to receive this year, at least an upper second class degree in education or social science, or a graduate qualification.

Applicants for research degree studentships should note that they may either propose a topic within the area of the study of curriculum, teaching, schools, or the educational system; or they may take part in the Centre's own research and development programme within which they could follow a line giving scope for the development of interests in sociology, psychology, sociolinguistics or curriculum theory.

Particulars of opportunities for research and how to apply are available from Miss Jean Rudduck, Chairman of Teaching, Centre for Applied Research in Education, University of East Anglia, Norwich NR4 7TJ.

EXETER
THE UNIVERSITY
DEPARTMENT OF ECONOMIC HISTORY
S.S.R.C. RESEARCH STUDENTSHIPS

Applications are invited for S.S.R.C. Studentships both for the degree of Ph.D. by dissertation and for the degree of M.A. in the History of the Atlantic Economy by examination and dissertation tenable from 1st October, 1976.

Candidates should have, or hope to obtain in the summer of 1976, a good Honours degree in Economic History, Economics, History or related disciplines.

The current value of the Studentships is £1,080 per annum plus fees (or £790 plus fees for students living in the parental home).

Applications, together with the names and addresses of two referees, should be sent to: Professor W. E. Minchinton, Department of Economic History, Amory Building, Rennes Drive, University of Exeter, Exeter EX4 4RJ, by 10th July 1976.

READING
THE UNIVERSITY
PLANT SCIENCE LABORATORIES
DEPARTMENT OF BOTANY
S.R.C./CASE STUDENTSHIP IN PLANT PHYSIOLOGY

Applications are invited from honours GRADUATES for research on "The photocontrol of growth in sugar cane" in association with Tate & Lyle Ltd., Philip Lyle Memorial Research Laboratory, Whiteknights, Reading. The studentship is available from October 1, 1976, for a period of three years.

Application, with a curriculum vitae and the names of two referees, should be sent to Dr D. Vince-Prue, Department of Botany, Plant Science Laboratories, The University, Whiteknights, Reading RG6 2AS, from whom further details may be obtained.

Polytechnics

Department of Services to Industry

Lecturer II in Financial Management/Management Accounting

Applicants are invited from academically/professionally qualified persons to teach Financial Management/Management Accounting subjects within a variety of programmes. These include Post-Graduate Diploma in International Marketing Management, Diploma in Management Studies (Manufacturing Management) and also special short courses for senior and middle management. The successful candidate will be expected to assist in course/study development and course administration. (Ref. S/AO[illegible])

Lecturer II/Senior Lecturer in Small Business Management

Applications are invited from persons with appropriate academic qualifications coupled with a professional qualification in company secretaryship or accounting. Experience in the management of small businesses and/or in the provision of consultancy or professional services to small business is essential. The post involves responsibility for developing a range of special courses for the managers/owners of small businesses together with teaching duties in the successful candidate's area of expertise. (Ref. S/AO[illegible])

Salary scales: Senior Lecturer £5,343-£6,729; Lecturer II £3,591-£5,805 (Plus London Allowance where applicable)

Further details and application form from: Academic Staffing Office (2), North East London Polytechnic, Forest Road, London E17 4JB. Tel: 01-527 2272, ext. 187.

Closing date: 28th June, 1976. Please quote above reference.

ARMC Anglian Regional Management Centre
NORTH EAST LONDON POLYTECHNIC—ESSEX COUNTY COUNCIL

ULSTER COLLEGE
The Northern Ireland Polytechnic
FACULTY OF THE ARTS

SENIOR LECTURER
Furniture/Product Design

Lecturer required to be responsible for Furniture/Product Design Studies and associated workshops at BA Honours Degree level.

Applicants should be practising designers with some teaching experience and hold an MDesRCA, BA Hons. or equivalent qualification.

LECTURER II
Furniture/Interior Design

Applications are invited from Furniture and Interior Designers to make a contribution in one of these main areas of study at BA Honours Degree level.

Candidates should have some experience as designers and hold an MDesRCA, BA Hons. or equivalent qualification.

Salary Scales: Senior Lecturer £5,031-£5,955/£6,[illegible]; Lecturer II £3,279-£5,493

(All points on scale subject to £312 per annum supplement.) Further particulars and application forms which must be returned by June 29 may be obtained by telephoning Whiteabbey 65131 ext. 2243 or by writing to: The Establishment Officer, Ulster College, The Northern Ireland Polytechnic, Jordanstown, Newtownabbey, Co. Antrim, BT37 0QB.

Polytechnics continued

STRATHCLYDE REGIONAL COUNCIL: DEPARTMENT OF EDUCATION

FURTHER EDUCATION

Applications are invited for the undernoted Lecturing posts. All candidates should have relevant industrial or commercial experience where appropriate. Teacher training would be an advantage but training will be given on an in-service basis if necessary.

Glasgow College of Building & Printing, 60 North Hanover Street, Glasgow G1 2BP

Building Management and Administration	Sen. Lect. 'A'	Degree and suitable professional qualification and experience.
Graphic & Typographic Design	Lect. 'A'	Appropriate recognized qualification and experience in Design.
Building Surveying	Lect. 'A'	Qualification in Building Surveying.

Glasgow College of Technology, North Hanover Place, Glasgow G4 0BA

Biochemistry/Clinical Chemistry	Lect. 'A'	Honours degree in biochemistry plus postgraduate experience in Clinical Chemistry. Will teach to Honours Degree level.
Economics	Lect. 'A'	To teach to Honours Degree level.

SALARIES. The promoted post structure in FE Colleges is presently under review.

SENIOR LECTURER 'A'	£6,312-£7,047 (Bar) £8,028
SENIOR LECTURER (Presently SL1 Scale)	£3,528-£5,682
LECTURER 'A'	£3,528-£6,324 (Bar) £6,807

Placing on salary scales will be given for relevant experience.

Further details and application forms may be obtained from and should be returned to the College concerned by Wednesday, June 23, 1976.

EDWARD MILLER, Director of Education.

PLYMOUTH POLYTECHNIC

RESEARCH ASSISTANTS

Applications are invited for the following research appointments which are now available.

Behavioural Sciences
Sociolinguistics

Electrical Engineering
Microprocessors in Process Control

Engineering Science
Heat and Mass Transfer in Developing Turbulent Flow

Environmental Sciences
(2 posts)
Structure and Physiology of Fish Receptors
Cretaceous micropalaeontology

Maritime Studies
Tidal Streams in the English Channel

Mathematical Sciences
Rheology

All of the posts demand high academic qualifications and where appropriate some industrial experience. Research Assistants are normally required to register for a higher degree, although post-doctoral applicants can be considered.

Appointments are for a period of two years with the possibility of a third year, and carry an initial salary of either £2,469 or £2,721 with annual increments. An additional £312 p.a. supplement is also payable. Research Assistants undertake 6 hours teaching weekly. Send for further details and application form to Personnel Officer. Closing date for applications will be 30th June, 1976.

LANCHESTER POLYTECHNIC
Coventry – Rugby

Applications are invited for the following posts:

Faculty of Applied Science

Temporary Lecturer Grade II (One year duration)
STATISTICS

Faculty of Social Science

Temporary Lecturer Grade II (One year duration)
MODERN GERMAN STUDIES

Temporary Lecturer Grade II (One year duration)
RUSSIAN

Temporary Lecturer Grade II (One year duration)
LAW

Salary Scale: within the scale £3,279-£5,493 plus £312 supplement per annum.

In certain circumstances the salary may be above the minimum of the scale.

For application form and further particulars please apply in writing enclosing a foolscap stamped and addressed envelope to the Assistant Secretary (Personnel), Lanchester Polytechnic, Priory Street, Coventry CV1 5FB, returnable by 25th June, 1976.

Research Studentship

The Science Research Council is prepared to offer a research studentship tenable for up to three years from September, 1976, at Middlesex Polytechnic.

Opportunities for research are available in these areas:
- air and water pollution
- control engineering
- heat transfer
- material sciences
- mathematics
- plasticity
- solid mechanics
- transportation planning (traffic engineering)

Applications are invited from UK or Commonwealth citizens resident in Great Britain, under 27 years of age and holding an appropriate upper second or first-class honours degree from a British university or polytechnic.

Write, giving full details of qualifications, experience and proposal for research programme, to: Mrs. Janet Politt, Assistant Academic Registrar's Office (Ref. A282C), Middlesex Polytechnic, Bounds Green Road, London, N11 2NQ. Closing date: 25th June. Interviews and selection will take place in July.

Middlesex Polytechnic

OXFORD POLYTECHNIC

Applications are invited for the post of

SENIOR LECTURER in charge of Professional Social Workers Course
(readvertisement)

(£5,343-£6,267 (bar) -£6,729)

Further particulars and application forms may be obtained by writing to the Head of Department of Management and Social Sciences, Oxford Polytechnic, Oxford OX3 0BP.

THE POLYTECHNIC HUDDERSFIELD

Department of Business Studies
SENIOR LECTURER/LECTURER II, LAW. Ref. ACA/96.
Applicants should possess a degree in Law or Business Law and/or a professional qualification. A higher degree or evidence of research would be an additional qualification. Lecturing duties will be for the B.A.(Hons.) Business Studies, HND Business Studies and professional courses. An interest in work with industrial placement for sandwich course students will be a strong recommendation.

Department of Education
PRINCIPAL LECTURER/SENIOR LECTURER/LECTURER II, PSYCHOLOGY and EDUCATION. Ref. ACA/97.
Applications are invited from good honours graduates in Psychology for appointment in the Department of Education. Candidates should have substantial experience in schools and/or teacher education and should be able to contribute to teaching programmes at Honours B.Ed. and M.Ed. levels. Recent research experience and the ability to supervise research for Masters Degrees and Doctorates will be expected.

Department of English Studies
SENIOR LECTURER/LECTURER II, PHILOSOPHY. Ref. ACA/98
Applications are invited for an appointment in Philosophy. The candidates should have a good honours degree in philosophy with special qualifications and/or research interests in the history of Modern Philosophy, especially Kant or in logic; and should be able to contribute to teaching programmes in the B.A. Humanities degree and possibly to other courses in the Polytechnic.

Department of Engineering Systems
RESEARCH ASSISTANTS, SYSTEM MODELLING AND IDENTIFICATION Ref. ACA/99
Applications are invited for the posts of Research Assistant in the Department of Engineering Systems and Control to pursue work on the Dynamic Behaviour of an Open Hydraulic Pump/Motor System and on the Applications of Algorithms for Orthogonal Transformation in Signal Processing respectively. The work will involve signal processing for system identification and model confirmation. Applicants must hold a good degree, or equivalent, in Engineering and have a knowledge of system modelling and control. The successful candidates will be encouraged to register for a Higher Degree.

Salary, PL £6,252 to £6,954 (Bar), £7,090; LII/SL £3,591 to £6,343 (Bar) to £6,207 (Bar) to £6,729; Research Assistant £2,871.

Further details and application forms which should be returned by June 25, 1976, from the Establishment Office, The Polytechnic, Queensgate, Huddersfield HD1 3DH (telephone 0484 30501, ext 307).

NEWCASTLE UPON TYNE POLYTECHNIC
Department of Physics and Physical Electronics

RESEARCH ASSISTANT
(£2,752-£3,112)

Required to work in one of the following areas:

Thin Film Physics, Gas Discharge and Plasma Physics or Satellite Communication Systems.

The successful candidate will be expected to register for a higher degree. The Assistantship is initially for a fixed period of two years.

For further particulars and application forms, returnable by 21st June, 1976, please send stamped addressed foolscap envelope to Staffing Officer, Newcastle upon Tyne Polytechnic, Ellison Buildings, Ellison Place, Newcastle upon Tyne, NE1 8ST.

DUNDEE COLLEGE OF TECHNOLOGY
Applications are invited for the post of

HEAD OF DEPARTMENT OF MOLECULAR & LIFE SCIENCES

The college is a Scottish Central Institution with a substantial and developing range of courses at degree and diploma level. The Department of Molecular & Life Sciences offers a wide variety of courses including a degree in Nursing, M.I. Biol., HND in Biology and it has a shared responsibility for a degree in Science. Applicants must have high academic qualifications, appropriate experience in teaching at degree level and relevant industrial and/or research experience, together with a proven record of administrative ability. The salary (at present under review in the light of the Houghton Committee Report) is £8,532.

Further particulars and application form obtainable from the Principal, Dundee College of Technology, Bell Street, Dundee, DD1 1HG, to whom completed application forms should be returned not later than 25th June, 1976.

DUNDEE COLLEGE OF TECHNOLOGY
LECTURER (A) IN ANATOMY/PHYSIOLOGY
RESEARCH FELLOWSHIPS IN PHYSIOLOGY

Applications are invited for the above posts from suitably qualified graduates.

Applicants for the lectureship must possess a good honours degree and preferably have research and/or teaching experience. A particular interest in human anatomy/physiology would be an advantage. Candidates for the Research Fellowship posts must have had research experience and be prepared to develop their research interests, which should be of relevance to Mammalian/Human Physiology and/or Pharmacology. The appointments will be tenable on an annual basis and will be renewable for up to three years.

Salary Scales:
Lecturer (A) £3,528-£6,324 (bar) £6,807. Initial placing will be dependent upon prior experience.
Research Fellowships £3,403.

Financial assistance towards the cost of removal expenses may be payable.

Further particulars and application forms are obtainable from the Principal, Dundee College of Technology, Bell Street, Dundee, DD1 1HG, to whom completed forms should be returned not later than 25 June, 1976.

BRIGHTON
THE POLYTECHNIC
DEPARTMENT OF PHARMACY
Head: Malcolm B. Parker, M.Sc., Ph.D., M.I.Biol., M.P.S.

Applications are invited from honours GRADUATES in PHARMACOLOGY, PHARMACY, PHYSIOLOGY or MEDICINE for the post of LECTURER I-II (£2,4[illegible]-£5,493 plus £312 at each point).

Candidates should have experience in teaching, research or industry and preferably a postgraduate qualification. The successful applicant will be expected to teach pharmacology to Honours Degree standard, to assist in the organisation of undergraduate and postgraduate courses and to undertake and supervise research. Liaison with industry and consultancy work is encouraged. Duties to commence September, 1976.

Application forms and further particulars from Bursar (S2/6) Brighton Polytechnic, Moulsecoomb, Brighton BN2 4GJ. Telephone: 0273 67304. Returnable by June 25, 1976.

HERTFORDSHIRE
THE HATFIELD POLYTECHNIC
LECTURER II IN BUSINESS STUDIES

Candidates should have academic qualifications in Business or Management Studies with industrial/commercial experience.

The successful candidate will teach "Business and Society", an interdisciplinary course introducing students to business in its societal setting, to first year students of Business Studies and Accounting. He/she will also participate in business training supervision and interdisciplinary Business Problems Seminars with final year undergraduates.

Salary Scale: Lecturer II £3,591 to £5,343 (bar) to £6,267 plus £141 local weighting.

Details and application form available from the Staffing Officer, The Hatfield Polytechnic, P.O. Box 109, Hatfield, Herts, AL10 9AB, or telephone Hatfield 68100, extension 309. Please quote reference 784. Closing date: 21 June, 1976.

LIVERPOOL
LIVERPOOL POLYTECHNIC
DEPARTMENT OF CHEMISTRY
SENIOR LECTURER IN INDUSTRIAL CHEMISTRY/CHEMICAL ENGINEERING

Applications are invited for the appointment of a chemical engineer or chemist to join a team involved in the teaching and development of industrial chemistry to honours degree level. The successful candidate will have a first or higher degree in chemical engineering or chemistry and the necessary experience of semi-technical scale plant to exploit fully the extensive facilities in the recently completed Industrial Chemistry block. Research and consultancy will be encouraged.

Salary: £5,343 to £6,729.

Apply in writing to the Staff Officer, Richmond House, Rumford Place, Liverpool L3 9RH. Previous applicants will be automatically considered.

Closing date for applications: July 7, 1976.

LONDON
THE POLYTECHNIC OF CENTRAL LONDON
SCHOOL OF LANGUAGES

SENIOR LECTURER/LECTURER II in CHINESE LANGUAGE and INSTITUTIONS to commence September 1, 1976, or as soon as possible thereafter. The successful applicant will take part in teaching a variety of courses, including the Chinese option in the C.N.A.A. B.A. (Hons and Unclassified) degree in Modern Languages. He/she should have a good honours degree, or its equivalent, in modern Chinese, speak Chinese fluently and accurately and have teaching experience. Preference will be given to applicants with a special knowledge of contemporary China.

Senior Lecturer £5,743 to £6,[illegible] (bar) to £7,151; Lecturer II £3,993 to £6,307.

Details and application form from the Establishment Officer, PCL, 309 Regent Street, London W1R 8AL (01-580 2020, ext. 212). Closing date July 5, 1976.

LONDON
CITY OF LONDON POLYTECHNIC
DEPARTMENT OF ECONOMICS AND BANKING
ANALYSIS OF THE CAUSES OF FAILURE OF LIFE ASSURANCE COMPANIES IN 1974
RESEARCH ASSISTANT

Applications are invited from well qualified candidates interested in investigating the causes of the failure of life assurance companies during 1974. The successful applicant will hold a good honours degree in an economics, business studies, or accounting-related discipline, be acquainted with the domestic financial system and the economics of financial intermediaries, and be able to read and interpret company accounts. Previous experience of empirical research, obtained during undergraduate or postgraduate study, would be an advantage.

The position offers the successful applicant a unique opportunity for research likely to have considerable implications regarding both empirical knowledge of the causes of company failure, and the development of an analysis of the conditions of exit: areas of economics which are being actively researched by Peter Franklin, under whose direction the investigation will proceed.

The investigation will be for two years to begin in October, 1976, and is being supported by the Social Science Research Council.

Salary—£2,944 per annum in the first year of appointment, £3,300 per annum in the second year. A London Allowance of £402 per annum is paid.

Further details and application form can be obtained from the Assistant Secretary, City of London Polytechnic, 117/119 Houndsditch, London EC3A 7BU.

Polytechnics continued

LOTHIAN REGIONAL COUNCIL

NAPIER COLLEGE OF COMMERCE AND TECHNOLOGY

DEPARTMENT OF BIOLOGICAL SCIENCES

SCIENCE RESEARCH COUNCIL STUDENTSHIP

Applications are invited for a studentship for research in one of the following fields:

(i) A biochemical and psychological study of cockroach-like in animal populations.

(ii) The symbiotic actinomyces of Rhodnius prolixus.

(iii) Noise pollution.

Applicants who have, or expect to obtain, at least upper second class honours or equivalent, in a relevant subject will be considered.

For further information and application forms please contact Dr. K. Anderson, Head of Department of Biological Sciences, Napier College of Commerce and Technology, Colinton Road, Edinburgh EH10 5DT.

LONDON

THE POLYTECHNIC OF NORTH LONDON

RESEARCH ASSISTANTS (Department of Applied Social Studies)

TWO posts for one year from September, for projects on ad-vanced adult courses and on housing self-help groups and local authorities. For social science or equivalent graduates with knowledge of subject area and/or research design.

Salary scale: £3,344 to £3,765 plus £403 London allowance.

Application forms and further particulars from the Establishment Officer, The Polytechnic of North London, Holloway Road, N7 8DB. (01-607 2789, extn. 387.)

Application forms should be returned within 14 days of the appearance of this advertisement.

LONDON

CITY OF LONDON POLYTECHNIC

PART-TIME LECTURERS IN GRAPHIC AND TYPOGRAPHIC DESIGN

Required for September. The successful applicants will be required to work with design students on a wide range of creative design projects, establishing design and photographic image in consultation with the project board. To stimulate ideas and set experimental projects.

A working knowledge of design practice and typography is essential. Evidence of commercial and teaching experience would be an advantage. There are two posts each comprising one day and one evening's teaching (6 hours).

Salary will be at £[illegible] and is at present subject to review: £6.82 per hour. ¾ = £4.40 per hour.

Application forms from—The Art Department Secretary, Sir John Cass School of Art, City of London Polytechnic, Central House, Whitechapel High Street, London E1 7PF.

SUNDERLAND

THE POLYTECHNIC

FACULTY OF HUMANITIES

DEPARTMENT OF GEOGRAPHY AND HISTORY

LECTURER II IN GEOGRAPHY

A physical specialism would be an advantage but the successful candidate will be concerned with a wide range of undergraduate courses. A higher degree and/or current research interest are desirable and it is hoped that the appointment will take effect during or soon after September, 1976.

Salary scale: Lecturer, Grade II, £3,591 to £4,749 or £4,944 by £243 to £5,430. The commencing salary will be within the Lecturer Grade according to qualified candidates with little or no relevant experience could be appointed as Lecturer Grade I. Subject to a positive work and efficiency record, Lecturers Grade II can be transferred to the Senior Grade after two years.

Further particulars and an application form may be obtained from the Personnel Officer, Sunderland Polytechnic, Chester Road, Sunderland SR1 3SD, and should be returned as soon as possible.

WOLVERHAMPTON

THE POLYTECHNIC

SENIOR LECTURER IN ACCOUNTING (with special reference to the Public Sector)

Applicants must be members of the Chartered Institute of Public Finance and Accountancy, Local government, Public Board or similar experience is essential and teaching experience desirable.

LECTURER I/II IN LAW (with special reference to the Business Sector)

Preference will be given to candidates interested in the Law of International Trade, or Monopolies and Restrictive Trade Practices.

Further details and application forms from the Establishment Officer, The Polytechnic, Wolverhampton WV1 1LY.

Ulster College Northern Ireland Polytechnic

Faculty of Social and Health Sciences

DIRECTOR OF STUDIES – SCHOOL OF SOCIAL STUDIES

£7,707–£8,913

The School has divisions of Sociology, Social Work, Social Administration and Youth and Community Work. It embraces pure and applied studies in a wide range of degrees and diploma, full-time and part-time courses within the School and contributes widely to other Polytechnic courses.

Applicants should have high qualifications and a special interest in one or other of these main activities of the School. They should be capable of making a significant coniribution to the academic work of the Polytechnic in teaching, research and course development.

The Polytechnic is creating a limited number of Professorships and the successful applicant for the above post will be eligible for consideration.

PRINCIPAL LECTURER – Sociology

To co-ordinate and develop the teaching of Sociology in a wide range of degree and diploma courses. Applicants should have graduate and post graduate qualifications in Sociology and be experienced teachers of the subject.

Faculty of The Arts

SENIOR LECTURER or LECTURER II – Ceramics

A creative and experimental potter is required to contribute to the B.A. Honours course in Ceramics. Applicants should have a good studio background including fluency in wheel-based forms and a sound knowledge of ceramic technology. Teaching experience at B.A. Honours level would be an advantage and candidates should hold MDes/RCA or equivalent qualification.

LECTURER II – History and Theory of Design

Applicants should have a suitable qualification and be able to demonstrate an interest and involvement in Contemporary Design Education and its developments applicable to courses for BA Honours Art and Design students within an Art History and Complementary Studies Programme.

Faculty of Technology

LECTURER II – Concrete and Materials Technology

Applicants should be experienced graduates to lecture to degree and technician courses. Interests in research and laboratory developments essential.

SALARY SCALES:

Principal Lecturer, £5,940 to £6,642/£7,575
Senior Lecturer, £5,031 to £5,955/£6,417
Lecturer II, £3,279 to £6,493
plus £312 supplement.

Further particulars and application forms which must be returned by June 28 may be obtained by telephoning Whiteabbey 66131, ext. 2243 or by writing to—

The Establishment Officer, Ulster College, The Northern Ireland Polytechnic, Newtownabbey, Co. Antrim, BT 37 0QB.

Colleges and Institutes of Technology

Cambridgeshire County Council

Cambridgeshire College of Arts and Technology

Applications are invited for the post of

PRINCIPAL

The vacancy will occur on the retirement of the present Principal, Deryck E. Mumford, CBE, MA (Cantab) at the end of the 1976/77 academic year. His successor will be expected to take up the appointment on 1 September, 1977. The College is in Burnham Group 8 (present Salary range £11,136-£11,946). The college enrols annually nearly 2,000 full-time students, of whom over 800 are following CNAA degree courses, in addition there are over 7,000 part-time enrolments.

Full particulars and application forms obtainable from the Chief Education Officer, Shire Hall, Castle Hill, Cambridge CB3 0AP. Closing date 31 July, 1976.

EALING Technical College

Specialist Centre for Higher Education

Lecturer in Librarianship

(Re-advertisement: Previous applicants need not reapply)
Applications are invited from professionally qualified Librarians with extensive experience in Bibliographical Studies or Library & Information Services.

Lecturer in Accounting/Finance

Candidates should have high academic qualifications with business experience desirable. The person appointed would be expected to contribute to the development of teaching in at least one of the following areas:
Undergraduate Programmes
Final Professional Work
Post experience Management Courses

Lecturer in Law

Applicants should have a good degree in Law, and preferably, a professional qualification. Previous teaching experience an advantage.

Appointments will be made at either L/I or L/II level according to qualifications and experience and will date from 1 September, 1976 or as soon as possible thereafter.

Salary: L/I £3,183-£3,981 / L/II £3,963-£6,207 / inclusive of London Allowance

Application forms and further details from The Registrar (Room 17), Ealing Technical College, St. Mary's Road, Ealing W5 5RF (addressed foolscap envelope please). Tel. 01-579 5111 Ext 287.

Closing date 25 June, 1976.

Ealing EDUCATION SERVICE

Colleges of Further Education

BRADFORD COLLEGE

Applications are invited from suitably qualified and experienced candidates for the following posts:

SCHOOL OF BUSINESS AND SOCIAL STUDIES

SENIOR LECTURER IN ECONOMICS

SCHOOL OF TECHNOLOGY AND DESIGN

SENIOR LECTURER IN OPTICS

SALARY SCALE—Senior Lecturer, £5,343-£6,267 (Bar)-£6,726. Further particulars and forms of application may be obtained from The Staffing Officer, Bradford College, Great Horton Road, Bradford BD7 1AY.

and completed forms must be returned within 14 days of the appearance of this advertisement.

Tayside Regional Council

FURTHER EDUCATION

DUNDEE COLLEGE OF COMMERCE, 30 Constitution Road, Dundee DD3 6TB

SENIOR LECTURER 'A' IN MANAGEMENT STUDIES

The successful candidate, who should have considerable teaching and business management experience, would lead a team of Management teachers offering subjects to Higher National Diploma, Higher National Certificate and Professional Institute Course level.

Salary scale £6,312-£7,047 (Bar) to £8,028 with placing according to experience and level of work.

Application form and full details obtainable from the Principal of the College (address given above) to whom completed forms should be returned by 21st June, quoting reference THE/11.

Colleges of Higher Educ

LANCASHIRE

[illegible]

Required for [illegible] for [illegible] posts [illegible] to [illegible] in Arts & Social Studies.

DRAMA

PRINCIPAL LECTURER IN DRAMA to be in charge of the Head of [illegible] B.Ed. course [illegible] Drama, qualifications, [illegible] experience [illegible] £5,481 to £6,207.

LECTURER GRADE II in Drama, major interest to [illegible] courses, some [illegible] subject to be in [illegible] Special Needs [illegible] History would be [illegible] £3,591 to £4,749.

SOCIAL SCIENCES

LECTURER Grade II in Social Sciences [illegible] Sociology [illegible] Psychology [illegible] Economics [illegible] Social Sciences [illegible] College in which [illegible] experience in a [illegible] Applicants under 30 [illegible] Special Needs [illegible] £3,591 to £4,749.

Closing date for all [illegible] June 25th, 1976.

Application forms for the posts of [illegible] DRAMA with specific [illegible] at least two of [illegible] Areas listed: [illegible] Language [illegible] Literature [illegible] Drama [illegible] Linguistics [illegible] Philosophy [illegible] Religious Studies [illegible] Sociology [illegible] Social Studies [illegible] Theatre Arts [illegible] Speech [illegible] Communication [illegible] Applications [illegible] Further details [illegible] Administration [illegible] Technical College, Worcester WR1 2LS.

Closing date June 25, 1976.

Colleges and Institutes of Technology

GLOUCESTERSHIRE

GLOUCESTER CITY COLLEGE OF TECHNOLOGY

PRINCIPAL LECTURER (Chemistry) required to take up duties at post when [illegible] during Christmas [illegible] Chemistry and Biology at all levels up to degree [illegible] and science [illegible] basic [illegible] preparation of departmental [illegible] Previous [illegible] considered. Further details of application [illegible] forward not [illegible] June, obtainable [illegible] cipal, Gloucester [illegible] of Technology, [illegible] Road, Gloucester.

Colleges of Educ

OXFORDSHIRE

CULHAM COLLEGE OF EDUCATION

(Girls' [illegible] and [illegible] Certificate [illegible] Diploma)

A full or [illegible] required for the [illegible] 1976-77.

The Lecturer [illegible] be able to [illegible] in establishing [illegible] Education [illegible] further [illegible] of application [illegible] Culham, Abingdon, Oxon OX14 3DZ. Closing [illegible] receipt of [illegible] days. June 21st.

SOUTHWELL

DIOCESE OF [illegible]

ASSISTANT DIRECTOR OF [illegible]

CLERICAL OR [illegible]

Required to [illegible] full range of [illegible] ties of the Diocese [illegible] Have professional [illegible] and experience in [illegible] education.

[illegible] including [illegible] for further [illegible] apply to the Diocesan [illegible] Bow, Southwell, [illegible] DAY for [illegible] Applications [illegible]

HEREFORD & WORCESTER COUNTY [illegible]

WORCESTER [illegible] COLLEGE

DEPARTMENT OF [illegible] STUDIES

SENIOR LECTURER [illegible] PUBLIC SECTOR ACCOUNTANCY

A qualified [illegible] Chartered Institute [illegible] Finance and Accountancy [illegible] required from 1st [illegible] 1976 or as soon [illegible] thereafter to be [illegible] College of Public [illegible] teaching experience [illegible] an advantage but [illegible]

Salary: £8,055 [illegible] £9,012.

Application forms [illegible] further details obtainable [illegible] Administrative Officer, Technical College, [illegible] Road, Worcester WR1 [illegible]

Overseas

Education Department of Western Australia
Technical Education Division
SENIOR LECTURER/LECTURERS IN PHOTOGRAPHY

Applications are invited from persons interested in teaching at Mount Lawley Technical College, situated in a northern suburb of the capital Perth, to the Certificate and Diploma level.

Requirements: Relevant academic studies to Certificate or degree level with extensive experience in the photographic industry. Teaching experience and qualifications are desirable but not essential. Membership of an appropriate professional organisation is an advantage.

Appointment: From 1st February, 1977, at a level dependent upon qualifications and experience.

Salary: Senior Lecturer — $A17,704
Lecturer — $A10,323 to $A15,064

Applications closing on Friday 6th August, 1976, to:
Director of Technical Education, 36 Parliament Place, WEST PERTH 6005, Western Australia.

KING FAISAL UNIVERSITY

DAMMAM, SAUDI ARABIA

King Faisal University invites applications from qualified and experienced persons to work in the Language Department for the session commencing 1976.

Each individual application will be considered on its own merit. Qualifications must be majoring in English Language Teaching.

DOCTORATE (D.E., Ph. D., Specialists)
MASTERS DEGREE (with at least 2 years' experience)
BACHELOR DEGREE (with post-graduate work and 3 years' experience)

The University offers competitive salaries, one year renewable contracts, free furnished air-conditioned accommodation.

Applications with detailed curriculum vitae should be sent to the Vice-Rector, King Faisal University, PO Box 1982 Dammam, so as to arrive not later than July 20, 1976.

RIVERINA COLLEGE OF ADVANCED EDUCATION
WAGGA WAGGA, NEW SOUTH WALES
THE COLLEGE INVITES APPLICATIONS FOR THE FOLLOWING:

SCHOOL OF TEACHER EDUCATION

(DEAN: DR. P. D. ROUSCH)

LECTURER/ASSISTANT LECTURER POSITIONS

The school offers courses at pre-service and in-service levels leading to the award of diplomas and degrees. Current planning envisages a strong involvement with curriculum development at the in-service level and a corporate approach to the teaching programme of the school which is based on a developmental approach to the education of children.

Vacancies exist at the Lecturer/Assistant Lecturer level for teacher educators with experience and expertise that would enable them to contribute to the teaching of education studies in an integrated programme. It would be advantageous for applicants to have particular expertise in one or more of the following areas:
Educational Sociology
Curriculum Construction and Implementation
Curriculum Study areas of: Reading
Art
Mathematics
Social Studies

The Principal of the College will interview some applicants during August/September in England. Selection will be completed in October and the successful applicants will be expected to enter on duty early in 1977.

Members of staff are eligible, subject to certain conditions, to contribute to an attractive superannuation scheme and to participate in a housing purchase plan. Reimbursement of travel and removal expenses is made on a generous basis. Leave conditions are similar to those in comparable tertiary institutions.

SALARY:
Lecturer: $12,835-$A17,228
Assistant Lecturer: $A11,124-$A12,835

Applications will close on 2nd July, 1976, with the Agent General for New South Wales, 66 The Strand, London, from whom additional information may be obtained.

Education Department of Western Australia
Technical Education Division
SENIOR LECTURER/LECTURERS IN ENVIRONMENTAL HEALTH

Applications are invited for permanent or temporary positions (optional) at Bentley Technical School, situated in a southern suburb of the capital Perth, for teaching to the Diploma level.

Requirements: Relevant academic studies to the Diploma or Degree level with extensive experience in the field of environmental health. Teaching experience and qualifications are desirable but not essential. Membership of a relevant professional organisation is an advantage.

Salary: Senior Lecturer—$A17,704
Lecturer —$A10,323 to $A15,064

Salary and level of initial appointment dependent on qualifications and experience.

Written applications closing on Friday, 6th August, 1976, to:—
Director of Technical Education
36 Parliament Place
WEST PERTH 6005
Western Australia

STATE COLLEGE OF VICTORIA, TOORAK
336 Glenferrie Road, Malvern, 3144
Victoria, Australia

PRINCIPAL

The Council of the State College of Victoria, Toorak, invites applications from persons with appropriate qualifications and experience for the position of Principal, to replace Mr. J. J. St. Ellon who will be retiring at the end of 1976.

This College, which is a constituent College of the State College of Victoria, has a history of success in conducting pre-service and in-service courses for primary teachers, and for teachers from all levels of education in the use of educational technology. It has recently taken over responsibility for courses conducted at Mercer House, a former teachers' college for independent schools. It is at present extending its operation to include conversion courses for teachers trained in non-English-speaking countries, for teachers of English as a Second Language, for specialist teachers in Music, and for teachers wishing to improve their initial qualifications by attending courses at the College in the late afternoons or by external studies. The College has been asked by the State College of Victoria to take a major responsibility for external studies in the field of teacher education in Victoria. It is in the process of obtaining accreditation for a four-year Bachelor of Education degree.

The Principal will be required to provide stimulating educational leadership in a developing institution which includes a School of Professional Studies, a School of General Studies, a large Educational Resources Centre, a Department of Educational Technology, a Department of Continuation Studies, and a Unit. The appointee will be expected to have achieved distinction in a discipline or speciality within the general field of education, and preferably, to have had some administrative experience in this field.

The College, with a population approaching fifteen hundred students, is situated approximately twelve kilometres east of Melbourne in an attractive garden setting in the suburb of Malvern, with "Stonnington" the former State Governor's residence, as its administrative centre. A major building programme is approaching its final stages.

The Council reserves the right to make an appointment by invitation, and would welcome suggestions concerning the names of suitable persons who may be approached with respect to this appointment.

Terms and conditions of employment are as set down by the Interim Senate of the State College of Victoria. Superannuation is available either through the State Superannuation Fund of the Government of Victoria or through a College-based scheme. The cost of travel and removal expenses will be made in accordance with scales generally applicable within tertiary institutions. Further information concerning the College and copies of the Terms and Conditions of Employment are available on request.

Salary—$A29,675 per annum.

Applications should contain a recent photograph and the names and addresses of three referees from whom confidential enquiries may be made.

Enquiries may be addressed to the Chairman of the Council, the Honourable Mr. Justice M. V. Molnerney, and applications, marked "Confidential", should be in his hands by 31st August 1976 at either of the following addresses.

336 Glenferrie Road, Malvern, Victoria, 3144
or
P.O. Box 224, Malvern, Victoria, 3144

Announcement

Summer Vacation

JULY to SEPTEMBER

OVERNIGHT ACCOMMODATION IN LSE RESIDENCES

Individuals/School parties WELCOME

Enquiries: Miss Trudy Hindmarsh
London School of Economics
Houghton Street
London, EC2A 2AE
Tel: 01-405 7686 Ext. 741

Ministry of Education

Riyadh **Saudi Arabia**

Applications are invited to fill the following positions

1) Teaching Staff

Qualification: Ph.D. with experience.

1. Education.
2. Psychology.
3. Methods of teaching Maths and Sciences.
4. Islamic Culture.
5. Physics (Experimental or Solid).
6. General Chemistry.
7. Analytical Chemistry.
8. Organic Chemistry.
9. Animal Biology (Vertebrate).
10. Animal Biology (Non-Vertebrate).
11. Botany, Microbiology and Morphology.
12. Mathematics, Applied Mathematics, Mathematical Statistics preferred.
13. Mathematics, Pure Mathematics.

2) Lecturers and Demonstrators

Qualification: M.A. preferred.

1. English Language.
2. Physics, Chemistry, Botany, Mathematics, Zoology.

3) Technicians and Assistants

1. Librarian and Assistant Librarian.
2. Supervisor (Social Work).
3. Specialist (Students' Affairs).
4. Laboratory Technician, Physics/specialist in Electronics or Electrics.
5. Chemistry (Preparer).
6. Technician (Samples Preparation of Botany Zoology and Slides for Microscopes).
7. Technician (Scientific glass group).
8. Specialist (Plants growing group).
9. Specialist Zoological Museum.
10. Secretary—should be able to type Arabic and English. Minimum 40 w.p.m.
11. Specialist Audio-Visual and Photography.

Applications should be sent within 20 days after the appearance of this advertisement to:

Ministry of Education, P.O. Box 4627, Riyadh SAUDI ARABIA.

AUSTRALIA

Royal Melbourne Institute of Technology

School of Humanities and Social Sciences
Department of Librarianship

LECTURER/SENIOR LECTURER

(Re-Advertised)

The Department of Librarianship have a vacancy for a Lecturer or Senior Lecturer in Librarianship. A qualification in education or experience in teaching at tertiary level would be desirable.

The appointee should have had considerable experience in the administration of a complete library system, or experience in the area of information retrieval, preferably in a special library.

The position will be available from November, 1976.

Salary Lecturer A$12,835-A$17,228 per annum
Senior Lecturer A$17,586-A$20,421 per annum

Reference No.: 142/02/AB Closing Date: 31/8/76.

Intending applicants should obtain a schedule of duties from the Agent General for Victoria, Victoria House, The Strand, London.

Applications should be addressed to the Principal, Royal Melbourne Institute of Technology, Box 2476V, G.P.O., Melbourne, 3001, Victoria, Australia.